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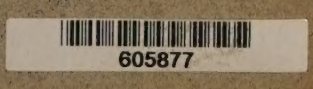
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FOURTEENTH REPORT

OF THE

REGISTRAR-GENERAL OF MARRIAGES

IN IRELAND;

UNDER THE PROVISIONS OF THE ACT 7 & 8 VIC., CAP. 81.

Presented to both Houses of Parliament by Command of Her Majesty.

DUBLIN:
PRINTED BY ALEXANDER THOM, 87 & 88, ABBEY-STREET,
FOR HER MAJESTY'S STATIONERY OFFICE.

1864.

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REPORT.

TO HIS EXCELLENCY GEORGE WILLIAM FREDERICK, EARL OF CARLISLE, K.G.,

&c., &c., &c.,

LORD LIEUTENANT-GENERAL AND GENERAL GOVERNOR OF IRELAND.

MAY IT PLEASE YOUR EXCELLENCY,

In accordance with the provisions of the Act 7 & 8 Vic., cap. 81, sec. 56, I have the honour to submit, in order to their being laid before Parliament, General Abstracts of the Marriages registered in Ireland during the year 1863.

8,188 Marriages were registered in the past year. Of these, 4,514 were according to the rites of the Established Church, 2,362 were solemnized in Presbyterian Meeting-houses, 1,200 in Registrars' Offices by civil contract, 101 in Registered places of Worship, and 11 were marriages by the Society of Friends. Table I. gives the number of Marriages registered according to each mode in 1862 and 1863, and the increase or decrease in the latter year.

TABLE I.—*The number of Marriages registered in* 1862 *and* 1863*; specifying the mode in which they were performed, and the Increase or Decrease in the latter year.*

Mode in which Marriages were performed.	Number of Marriages.			
	1862.	1863.	Increase in 1863.	Decrease in 1863.
According to the rites of the Established Church,	4,564	4,514	—	50
In Registered Presbyterian Meeting-houses,	2,489	2,362	—	127
In Registrars' Offices,	1,287	1,200	—	87
In Registered Buildings,	79	101	22	—
Between Members of the Society of Friends,	8	11	3	—
Jews,	3	—	—	3
Total,	8,430	8,188	Net Decrease. 242	

There has been an annual decrease in the Marriages registered since 1859, in which year there were 9,261, being 1,073 more than in 1863; this diminution has, no doubt, been mainly caused by the very large emigration from this country. The decrease in the last twelve months, compared with the preceding year (1862), amounted to 242. The greatest diminution was in Presbyterian Marriages, which decreased by 127; those in the Established Church were less by 50 in 1863 than in 1862; and those by civil contract fell off by 87. As regards the Marriages of Jews, there were not any registered in Ireland in 1863, and only 3 in 1862. The Marriages which exhibited an increase in 1863 were those between members of the Society of Friends, and those in Registered Buildings—the former having increased from 8 to 11, and the latter from 79 to 101. The increase in Marriages in Registered Buildings is due to the passing of the Act 26 Vic., cap. 27, by which the presence of the Registrar is dispensed with at Marriages in places of worship registered under the 27th section of the 7 & 8 Vic., cap. 81; and the increase in the Marriages in such buildings will diminish those by civil contract; as before the passing of the Amendment Act referred to, which came into operation on the 1st of August last, the parties who belonged to those places of worship were in many instances married before the Registrar of the District in which they lived.

Of the 4,514 Marriages solemnized according to the rites of the Established Church, 13 were by "Special Licence," and 3,443 by Licence; 1,023 were after publication of Banns, and 14 were on the District Registrar's Certificate, in lieu of Banns, by sec. 1 of the 7 & 8 Vic., cap. 81. In 21 instances the officiating Clergyman omitted to insert in the certified copies of the Register Books the particular authority upon which the Marriage was celebrated.

Table II. embodies these details for each year from 1845.

TABLE II.—*The number of Marriages in each year from 1st April, 1845, to 31st December, 1863, and the mode in which they were solemnized.*

Years ended 31st December,	MARRIAGES. According to the Rites of the Established Church.						Not according to the Rites of the Established Church.						TOTAL MARRIAGES.
	Special Licence.	Licence.	Banns.	Registrar's Certificate.	Not stated by which of the foregoing Forms.	Total.	In Registered Presbyterian Meeting-houses.	In Registered Buildings.	In the Registrars' Offices.	Society of Friends.	Jews.	Total.	
1845 (9 last months),*	4	2,630	732	40	712	4,118	1,586	39	358	11	2	1,996	6,114
1846, .	5	3,910	992	74	779	5,760	2,712	67	797	8	–	3,584	9,344
1847, .	6	2,897	925	66	427	4,321	1,777	62	772	10	1	2,622	6,943
1848, .	8	3,529	1,257	118	401	5,313	2,313	87	1,320	14	1	3,735	9,048
1849, .	2	3,572	1,384	108	258	5,324	2,440	67	1,647	13	2	4,169	9,493
1850, .	1	3,710	1,431	108	137	5,387	2,504	85	1,789	16	–	4,394	9,781
1851, .	4	3,719	1,341	64	73	5,201	2,517	80	1,527	13	1	4,138	9,339
1852, .	4	3,946	1,312	39	64	5,365	2,547	92	1,475	8	–	4,122	9,487
1853, .	6	4,173	1,260	47	76	5,562	2,890	100	1,626	19	–	4,635	10,197
1854, .	8	4,095	1,015	25	45	5,188	2,701	77	1,447	11	2	4,238	9,426
1855, .	6	3,867	1,002	20	27	4,922	2,435	79	1,316	12	1	3,843	8,765
1856, .	11	4,224	1,025	23	36	5,319	2,551	83	1,580	12	2	4,228	9,547
1857, .	7	4,271	1,019	16	30	5,343	2,847	75	1,660	15	–	4,597	9,940
1858, .	12	3,887	1,009	9	24	4,941	2,477	86	1,444	11	1	4,019	8,960
1859, .	7	3,974	972	13	13	4,979	2,686	90	1,498	7	1	4,282	9,261
1860, .	4	3,942	967	13	30	4,956	2,680	109	1,427	11	2	4,229	9,185
1861, .	6	3,749	990	14	20	4,779	2,621	95	1,403	11	2	4,132	8,911
1862, .	12	3,551	967	17	17	4,564	2,489	79	1,287	8	3	3,866	8,430
1863, .	13	3,443	1,023	14	21	4,514	2,362	101	1,200	11	–	3,674	8,188

* The 7 & 8 Vic., c. 81, came into operation 1st April, 1845.

2,081 of the Marriages registered in 1863 took place in the spring quarter of the year, 1,906 in the summer, 1,908 in the autumn, and 2,293 in the winter. The greatest relative number of Marriages takes place in the winter quarter, ending 31st December, and in the spring quarter, ending 31st March; and the least during the summer and autumn. In the ten years ending the last day of 1863, there were registered 90,613 Marriages, of which 25,120 were in the winter, 22,970 in the spring, 21,355 in the autumn, and 21,168 in the summer quarter. (See Table III.)

TABLE III.—*Showing the number of Marriages Registered in each Quarter of the years* 1853 *to* 1863*; by Provinces, and for all Ireland.*

Years.	ULSTER. Quarter ending				LEINSTER. Quarter ending				MUNSTER. Quarter ending				CONNAUGHT. Quarter ending				IRELAND. Quarter ending			
	March 31.	June 30.	Sept. 30.	Dec. 31.	Mar. 31.	June 30.	Sept. 30.	Dec. 31.	Mar. 31.	June 30.	Sept. 30.	Dec. 31.	Mar. 31.	June 30.	Sept. 30.	Dec. 31.	March 31.	June 30.	Sept. 30.	Dec. 31.
1853, .	1,760	1,595	1,772	2,116	444	444	425	429	227	232	218	190	97	81	78	89	2,528	2,352	2,493	2,824
1854, .	1,743	1,570	1,576	1,966	344	396	375	393	230	190	161	192	89	65	68	68	2,406	2,221	2,180	2,619
1855, .	1,647	1,407	1,237	1,822	353	380	414	395	203	211	193	178	90	88	69	78	2,293	2,086	1,913	2,473
1856, .	1,710	1,471	1,460	2,047	373	404	434	458	219	200	206	205	96	93	85	86	2,398	2,168	2,185	2,796
1857, .	1,764	1,633	1,707	2,001	417	404	464	404	244	175	180	175	123	79	93	77	2,548	2,291	2,444	2,657
1858, .	1,510	1,472	1,306	1,932	350	401	457	453	216	192	179	188	95	65	74	70	2,171	2,130	2,016	2,643
1859, .	1,629	1,511	1,494	1,898	382	384	452	436	201	158	206	199	100	78	62	71	2,312	2,131	2,214	2,604
1860, .	1,637	1,544	1,558	1,740	381	402	430	388	233	168	198	181	89	80	75	81	2,340	2,194	2,261	2,390
1861, .	1,609	1,314	1,433	1,725	406	455	446	422	201	190	219	196	82	82	77	54	2,298	2,041	2,175	2,397
1862, .	1,426	1,360	1,391	1,580	387	370	413	433	226	190	194	175	84	80	61	60	2,123	2,000	2,059	2,248
1863, .	1,450	1,240	1,276	1,679	371	413	411	391	185	186	167	166	75	67	54	57	2,081	1,906	1,908	2,293

The number of persons Married under twenty-one years of age, and of widowers and widows, and also of those who signed the Register Books with marks, is given in Table IV. for each year since the Act came into operation. The proportion of those who signed the Registers with a mark to every 100 Marriages, was, men 23·56 per cent., women, 38·18 per cent., being somewhat lower than the per-centage for the previous year.

TABLE IV.—*Showing the number of persons Married under Twenty-one years of age—of Widowers and Widows—and of those who signed the Register Books with marks, in each year, from* 1845 *to* 1863.

Years ended 31st December,	Total Marriages.	Not of Age.				Re-married.				Signed with Marks.			
		Men.	Rate per Cent.	Women.	Rate per Cent.	Widowers.	Rate per Cent.	Widows.	Rate per Cent.	Men.	Rate per Cent.	Women.	Rate per Cent.
1845 (9 last months),	6,114	345	5·64	1,192	19·50	665	10·88	340	5·56	1,189	19·45	2,223	36·36
1846, . . .	9,344	474	5·07	1,870	20·01	1,038	11·11	571	6·11	1,688	18·07	3,387	36·25
1847, . . .	6,943	246	3·54	1,210	17·43	862	12·42	429	6·18	1,077	15·51	2,260	32·55
1848, . . .	9,048	391	4·32	1,584	17·50	1,274	14·08	703	7·77	1,797	19·86	3,387	37·43
1849, . . .	9,493	415	4·37	1,714	18·06	1,244	13·10	679	7·15	2,096	22·08	3,922	41·31
1850, . . .	9,781	489	5·00	1,776	18·15	1,329	13·58	754	7·71	2,427	24·81	4,384	44·82
1851, . . .	9,339	411	4·40	1,551	16·61	1,183	12·67	695	7·44	2,281	24·42	4,037	43·23
1852, . . .	9,487	429	4·52	1,629	17·17	1,199	12·63	664	6·99	2,493	26·27	4,235	44·64
1853, . . .	10,197	475	4·65	1,708	16·75	1,255	12·30	700	6·86	2,726	26·73	4,609	45·19
1854, . . .	9,426	473	5·02	1,647	17·47	1,148	12·18	601	6·37	2,457	26·06	4,105	43·55
1855, . . .	8,765	405	4·62	1,551	17·69	1,163	13·26	610	6·95	2,260	25·78	3,674	41·91
1856, . . .	9,547	487	5·10	1,736	18·18	1,171	12·26	666	6·97	2,589	27·11	4,199	43·98
1857, . . .	9,940	515	5·18	1,716	17·26	1,182	11·89	623	6·26	2,713	27·29	4,317	43·43
1858, . . .	8,960	408	4·55	1,507	16·81	1,097	12·24	586	6·54	2,439	27·22	3,802	42·43
1859, . . .	9,261	394	4·25	1,619	17·48	1,064	11·48	527	5·69	2,479	26·76	3,955	42·70
1860, . . .	9,185	359	3·91	1,547	16·84	1,065	11·59	561	6·12	2,386	25·97	3,753	40·86
1861, . . .	8,911	310	3·47	1,483	16·64	1,089	12·22	544	6·10	2,243	25·17	3,545	39·78
1862, . . .	8,430	301	3·57	1,386	16·44	1,008	11·95	506	6·00	2,033	24·11	3,168	37·58
1863, . . .	8,188	259	3·16	1,294	15·80	942	11·50	485	5·92	1,929	23·56	3,126	38·18

The number of Marriages registered in each of the Provinces, annually, from 1853 to 1863, and also those registered in the several Counties and Districts to which the operation of the Marriages Act, 7 & 8 Vic., c. 81, is chiefly confined, is given in Table V.:—

TABLE V.—*Showing, by Provinces, Counties, and Districts, the number of Marriages Registered each Year from* 1853 *to* 1863.

Years, . .	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.
PROVINCES:											
Ulster, . . .	7,243	6,855	6,113	6,688	7,105	6,220	6,532	6,479	6,081	5,757	5,645
Leinster, . . .	1,742	1,508	1,542	1,669	1,689	1,661	1,654	1,601	1,729	1,603	1,586
Munster, . . .	867	773	785	830	774	775	764	780	806	785	704
Connaught, . .	345	290	325	360	372	304	311	325	295	285	253
COUNTIES:											
Antrim, . . .	2,322	2,210	1,875	2,135	2,262	2,034	2,150	2,157	1,977	1,926	1,942
Down, . . .	1,479	1,362	1,170	1,328	1,409	1,134	1,329	1,332	1,258	1,164	1,172
Armagh, . . .	821	778	630	757	843	683	724	732	647	601	586
Tyrone, . . .	789	783	729	734	721	662	690	647	623	595	549
Londonderry, . .	747	630	628	666	722	626	614	644	603	630	583
Dublin, . . .	1,011	889	858	932	997	1,034	1,054	1,017	1,097	1,017	999
Cork, . . .	438	399	386	416	414	415	465	461	493	445	426
DISTRICTS:											
Belfast, . . .	862	827	781	849	821	752	856	925	912	945	995
Antrim, . . .	237	202	200	184	240	217	216	214	179	154	176
Armagh, . . .	347	298	274	327	335	267	260	290	258	272	244
Ballymena, . .	503	471	361	441	502	436	440	407	375	310	339
Ballymoney, . .	221	193	146	178	199	164	181	192	154	158	142
Banbridge, . .	448	428	332	366	406	317	353	341	314	339	308
Coleraine, . .	232	237	221	226	258	214	228	193	204	199	201
Lisburn, . . .	422	421	299	446	426	361	441	422	332	334	288
Lurgan, . . .	460	448	286	388	451	381	417	406	342	280	289
Magherafelt, . .	263	196	189	224	224	174	156	191	169	162	150
Newry, . . .	203	210	179	174	205	150	180	201	195	177	151
Newtownards, . .	420	328	296	338	378	265	316	355	306	272	272
Dublin, North, .	330	324	294	313	334	330	332	304	359	361	330
Dublin, South, .	579	477	492	534	568	576	615	624	620	549	572
Cork, . . .	248	208	199	214	220	199	267	246	254	260	227

The number of Churches belonging to the Established Church (compiled from lists received from the several Diocesan Registrars), of Registered Presbyterian Meeting-houses, and of "Registered Buildings" in which Marriages might be lawfully solemnized, on the 31st day of December, 1863, is given in Table VI.

TABLE VI.—*Showing, by Districts, the number of Churches, Chapels, &c., in which Marriages may be lawfully solemnized:*

DISTRICTS.	Churches and Chapels of the Established Church.	Registered Presbyterian Meeting-houses. (Sec. 7.)	Registered Buildings. (Sec. 27.)	Total.	DISTRICTS.	Churches and Chapels of the Established Church.	Registered Presbyterian Meeting-houses. (Sec. 7.)	Registered Buildings. (Sec. 27.)	Total.
Abbeyleix,	10	–	–	10	Inishowen,	9	4	–	13
Antrim,	8	23	3	34	Irvinestown,	6	2	1	9
Ardee,	12	1	–	13	Kanturk,	9	–	–	9
Armagh,	21	21	4	46	Kells,	9	–	–	9
Athlone,	11	1	2	14	Kenmare,	4	–	–	4
Athy,	14	1	–	15	Kilkeel,	4	5	2	11
Bailieborough,	6	5	–	11	Kilkenny,	24	1	1	26
Ballina,	12	4	2	18	Killarney,	8	–	–	8
Ballinasloe,	13	1	–	14	Kilmallock,	12	–	–	12
Ballinrobe,	10	1	–	11	Kilrush,	5	–	–	5
Ballycastle,	8	6	1	15	Kinsale,	12	–	1	13
Ballymena,	9	21	5	35	Larne,	10	17	7	34
Ballymoney,	8	19	4	31	Letterkenny,	5	5	1	11
Ballyshannon,	8	1	1	10	Limerick,	22	1	2	25
Balrothery,	11	–	–	11	Lisburn,	16	23	6	45
Baltinglass,	11	–	–	11	Lismore,	7	1	–	8
Banbridge,	13	25	6	44	Lisnaskea,	7	2	–	9
Bandon,	20	3	2	25	Listowel,	10	–	–	10
Bantry,	5	–	–	5	Londonderry,	13	18	5	36
Belfast,	17	36	11	64	Longford,	17	2	–	19
Boyle,	8	2	–	10	Loughrea,	7	–	–	7
Cahersiveen,	2	–	–	2	Lurgan,	12	8	4	24
Callan,	10	–	–	10	Macroom,	13	–	–	13
Carlow,	24	1	–	25	Magherafelt,	14	14	3	31
Carrickmacross,	4	1	–	5	Mallow,	11	1	–	12
Carrick-on-Shannon,	10	–	1	11	Manorhamilton,	8	1	1	10
Carrick-on-Suir,	8	1	–	9	Middleton,	22	–	1	23
Cashel,	10	1	–	11	Millford,	6	8	2	16
Castlebar,	4	1	1	6	Mohill,	9	1	–	10
Castleblayney,	6	14	2	22	Monaghan,	11	9	–	20
Castlederg,	4	4	1	9	Mountmellick,	12	1	1	14
Castlereagh,	7	–	–	7	Mullingar,	22	3	–	25
Cavan,	20	4	1	25	Naas,	18	1	1	20
Celbridge,	12	–	1	13	Navan,	13	–	–	13
Clifden,	6	1	1	8	Nenagh,	20	–	2	22
Clogheen,	8	–	–	8	Newcastle,	7	–	–	7
Clogher,	6	5	1	12	New Ross,	17	1	1	19
Clones,	6	4	1	11	Newry,	16	22	5	43
Clonmel,	7	1	–	8	Newtownards,	11	32	8	51
Coleraine,	14	19	5	38	Newtownlimavady,	9	14	1	24
Cookstown,	8	11	3	22	Oldcastle,	10	2	–	12
Cootehill,	12	7	3	22	Omagh,	11	12	1	24
Cork,	24	4	3	31	Parsonstown,	17	1	1	19
Donegal,	8	2	4	14	Rathdown,	9	2	2	13
Downpatrick,	23	22	3	48	Rathdrum,	12	–	3	15
Drogheda,	12	1	1	14	Rathkeale,	14	–	–	14
Dublin, North,	17	4	4	25	Roscommon,	8	–	–	8
Dublin, South,	23	6	4	33	Roscrea,	13	–	–	13
Dundalk,	12	1	1	14	Scarriff,	6	–	–	6
Dunfanaghy,	5	1	–	6	Shillelagh,	13	–	2	15
Dungannon,	13	13	4	30	Skibbereen,	20	–	1	21
Dungarvan,	8	–	–	8	Sligo,	16	2	3	21
Dunmanway,	5	–	1	6	Strabane,	9	21	4	34
Dunshaughlin,	11	–	–	11	Stranorlar,	4	4	1	9
Edenderry,	9	–	–	9	Swineford,	4	–	–	4
Ennis,	8	1	–	9	Thurles,	12	–	–	12
Enniscorthy,	17	–	1	18	Tipperary,	12	1	–	13
Enniskillen,	15	3	1	19	Tralee,	15	2	1	18
Ennistymon,	5	–	–	5	Trim,	10	1	–	11
Fermoy,	19	1	–	20	Tuam,	5	–	–	5
Galway,	6	1	1	8	Tullamore,	11	1	2	14
Glenties,	8	–	1	9	Waterford,	17	2	2	21
Gorey,	12	–	1	13	Westport,	11	2	1	14
Gort,	5	–	–	5	Wexford,	16	1	1	18
Gortin,	2	5	–	7					
Granard,	9	1	–	10	TOTAL OF IRELAND,	1,441	563	173	2,177

During the year 1863 there were registered twenty-eight places of Worship in which Marriages may be solemnized; of these six belong to the Established Church, six were Presbyterian Meeting-houses, and sixteen belong to other denominations.

The Registered Buildings belong to the following religious bodies:-

Wesleyan Methodists,	93
Reformed Presbyterians,	31
Baptists,	11
Independents,	21
Moravians or United Brethren,	5
Seceders,	9
Methodist New Connexion,	1
Not stated,	2
TOTAL,	173

The number of Licences for Marriage issued by the Licensing Ministers of the several Presbyteries during the year 1863, was as follows:—

Presbytery, or Synod.	Number of Licensing Ministers on 31st December, 1863.	Number of Registered Meeting-houses on 31st December, 1863.	Number of Licences issued.
1. General Assembly of the Presbyterian Church in Ireland,	112	523	2,296
2. Remonstrant Synod of Ulster,	8	23	32
3. Presbytery of Antrim,	4	9	30
4. United Presbytery or Synod of Munster,	4	4	1
5. Northern Presbytery of Antrim,	1	4	9
TOTAL,	129	563	2,368

684 Licences for Marriage were granted by District Registrars in 1863.

I have the honour to be, my Lord,

Your Excellency's very faithful Servant,

WILLIAM DONNELLY,
Registrar-General.

The General Register Office, Dublin,
August 12, 1864.

GENERAL ABSTRACTS.

1863.

ABSTRACT of MARRIAGES Registered in Ireland, under the Provisions of the Act 7 and 8 Vic., c. 81, during the Year 1863.

DISTRICTS.	MARRIAGES. According to the Rites of the Established Church. Special License.	License.	Banns.	Registrar's Certificate.	Not stated by which of the foregoing forms.	Total.	Not according to the Rites of the Established Church. In Registered Presbyterian Meeting-houses.	In Registered Buildings.	In the Registrar's Office.	Society of Friends.	Jews.	Total.	TOTAL MARRIAGES.	Not of Age. Men.	Not of Age. Women.	Re-married. Widowers.	Re-married. Widows.	Signed with Marks. Men.	Signed with Marks. Women.
1. Abbeyleix,	–	7	4	–	–	11	–	–	–	–	–	–	11	–	–	2	–	1	–
2. Antrim,	–	14	–	–	–	14	132	2	28	–	–	162	176	9	23	21	6	35	59
3. Ardee,	–	8	1	–	–	9	1	–	1	–	–	2	11	–	3	1	–	–	–
4. Armagh,	–	161	4	–	–	165	56	2	20	1	–	79	244	8	32	24	11	74	115
5. Athlone,	–	19	14	–	–	33	–	–	7	–	–	7	40	–	11	1	2	5	21
6. Athy,	–	5	1	–	–	6	–	–	1	–	–	1	7	–	–	–	–	–	–
7. Bailieborough,	–	22	3	–	–	25	10	–	1	–	–	11	36	1	8	4	2	10	13
8. Ballina,	–	21	–	–	–	21	–	–	–	–	–	–	21	–	4	2	3	2	4
9. Ballinasloe,	–	18	–	–	–	18	1	–	–	–	–	1	19	–	3	3	2	1	3
10. Ballinrobe,	–	5	1	–	–	6	1	–	–	–	–	1	7	–	3	–	1	1	2
11. Ballycastle,	–	27	–	–	–	27	21	–	–	–	–	21	48	–	5	5	3	11	12
12. Ballymena,	–	31	10	–	–	41	214	4	80	–	–	298	339	21	57	27	10	117	179
13. Ballymoney,	–	25	–	–	–	25	83	3	31	–	–	117	142	7	23	16	4	45	59
14. Ballyshannon,	–	15	–	–	–	15	3	–	1	–	–	4	19	–	2	3	2	2	1
15. Balrothery,	–	5	–	–	–	5	–	–	–	–	–	–	5	–	1	1	–	–	–
16. Baltinglass,	–	14	1	–	1	16	–	–	3	–	–	3	19	–	3	1	–	4	3
17. Banbridge,	1	131	3	–	–	135	100	4	69	–	–	173	308	13	54	35	14	125	183
18. Bandon,	–	25	4	2	–	31	6	2	–	–	–	8	39	–	3	3	3	2	4
19. Bantry,	–	3	4	–	–	7	–	–	–	–	–	–	7	1	2	2	2	2	3
20. Belfast,	–	303	200	1	–	504	357	17	115	2	–	491	995	31	160	120	73	261	452
21. Boyle,	–	10	1	–	–	11	–	–	–	–	–	–	11	1	3	2	1	1	1
22. Cahersiveen,	1	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–
23. Callan,	–	4	–	–	–	4	–	–	–	–	–	–	4	–	–	–	–	–	–
24. Carlow,	–	20	5	1	1	27	–	–	1	–	–	1	28	–	6	3	1	5	6
25. Carrickmacross,	–	3	–	–	–	3	1	–	–	–	–	1	4	–	1	2	–	–	–
26. Carrick-on-Shannon,	–	9	3	–	–	12	–	–	–	–	–	–	12	1	2	1	1	5	5
27. Carrick-on-Suir,	–	5	1	1	–	7	1	–	–	–	–	1	8	1	2	2	–	1	2
28. Cashel,	–	12	1	1	1	15	1	–	–	–	–	1	16	–	–	1	–	–	2
29. Castlebar,	–	–	1	–	–	1	–	–	–	–	–	–	1	–	–	–	–	1	1
30. Castleblayney,	–	17	–	–	–	17	35	–	6	–	–	41	58	3	9	9	2	12	21
31. Castlederg,	–	9	–	–	–	9	18	–	–	–	–	18	27	–	6	2	2	3	4
32. Castlereagh,	–	3	1	1	–	5	–	–	–	–	–	–	5	1	–	–	–	2	2
33. Cavan,	–	70	5	–	–	75	4	–	5	–	–	9	84	2	24	12	6	15	21
34. Celbridge,	–	2	–	–	–	2	–	–	1	–	–	1	3	–	1	–	1	–	–
35. Clifden,	–	4	–	–	–	4	–	1	–	–	–	1	5	–	1	–	–	–	–
36. Clogheen,	–	7	3	–	–	10	–	–	–	–	–	–	10	–	–	1	–	–	1
37. Clogher,	–	33	2	–	–	35	12	1	–	–	–	13	48	5	5	5	6	16	26
38. Clones,	–	36	–	–	–	36	5	–	14	–	–	19	55	1	5	3	3	17	21
39. Clonmel,	–	10	1	–	–	11	3	–	4	2	–	9	20	–	2	–	–	3	7
40. Coleraine,	–	39	1	–	–	40	109	4	48	–	–	161	201	7	21	30	7	56	78
41. Cookstown,	–	40	–	–	–	40	47	2	10	–	–	59	99	5	13	10	3	30	57
42. Cootehill,	–	21	8	–	–	29	24	1	8	–	–	33	62	1	5	12	2	16	26
43. Cork,	–	75	96	–	–	171	2	3	50	1	–	56	227	3	44	29	16	39	80
44. Donegal,	–	24	–	–	–	24	2	2	5	–	–	9	33	1	6	4	2	13	18
45. Downpatrick,	–	90	5	–	–	95	107	3	36	–	–	146	241	16	39	25	9	51	79
46. Drogheda,	–	8	–	–	–	8	1	–	2	–	–	3	11	–	2	–	–	–	1
47. Dublin, North,	–	125	82	1	1	209	30	3	88	–	–	121	330	5	42	36	37	23	57
48. Dublin, South,	6	230	204	1	1	442	4	6	119	1	–	130	572	12	54	65	54	45	108
49. Dundalk,	–	26	–	–	–	26	6	–	2	–	–	8	34	–	5	3	2	2	8
50. Dunfanaghy,	–	4	–	–	–	4	3	–	–	–	–	3	7	–	–	–	–	1	2
51. Dungannon,	–	90	1	–	–	91	52	1	8	1	–	62	153	5	30	15	8	46	78
52. Dungarvan,	–	2	–	–	–	2	–	–	–	–	–	–	2	–	–	–	–	–	1
53. Dunmanway,	–	1	2	–	–	3	–	–	1	–	–	1	4	1	2	–	–	3	3
54. Dunshaughlin,	–	2	–	–	1	3	–	–	–	–	–	–	3	–	–	–	–	1	1
55. Edenderry,	–	5	1	–	–	6	–	–	1	–	–	1	7	–	1	2	–	2	–
56. Ennis,	–	2	1	–	–	3	–	–	2	–	–	2	5	–	1	–	1	2	1
57. Enniscorthy,	–	13	5	–	1	19	–	1	6	–	–	7	26	2	3	8	1	4	8
58. Enniskillen,	–	55	6	–	–	61	4	–	36	–	–	40	101	3	12	12	8	31	51
59. Ennistymon,	–	–	–	–	1	1	–	–	–	–	–	–	1	–	–	1	–	1	1
60. Fermoy,	–	22	28	–	1	51	2	–	–	–	–	2	53	–	11	5	4	7	20
61. Galway,	–	6	–	–	–	6	–	–	5	–	–	5	11	–	3	–	–	–	2
62. Glenties,	–	11	2	–	–	13	–	2	–	–	–	2	15	2	3	2	–	5	7
63. Gorey,	–	20	3	–	–	23	–	–	6	–	–	6	29	–	3	4	1	7	5
64. Gort,	–	1	–	–	–	1	–	–	–	–	–	–	1	–	–	1	–	–	–
65. Gortin,	–	4	–	–	–	4	11	–	1	–	–	12	16	–	2	1	1	3	4
66. Granard,	–	9	2	–	–	11	2	–	–	–	–	2	13	–	3	1	1	–	–

[*continued.*

ABSTRACT of MARRIAGES Registered in Ireland, under the Provisions of the Act 7 and 8 Vic., c. 81, during the Year 1863—*continued.*

DISTRICTS.	MARRIAGES. According to the Rites of the Established Church. Special License.	License.	Banns.	Registrar's Certificate.	Not stated by which of the foregoing forms.	TOTAL.	MARRIAGES. Not according to the Rites of the Established Church. In Registered Presbyterian Meeting-houses.	In Registered Buildings.	In the Registrar's Office.	Society of Friends.	Jews.	TOTAL.	TOTAL MARRIAGES.	Not of Age. Men.	Not of Age. Women.	Re-married. Widowers.	Re-married. Widows.	Signed with Marks. Men.	Signed with Marks. Women.
67. Inishowen,	–	17	–	–	–	17	8	–	1	–	–	9	26	–	3	4	2	7	11
68. Irvinestown,	–	25	3	–	1	29	4	1	4	–	–	9	38	1	9	5	2	11	19
69. Kanturk,	–	1	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–
70. Kells,	–	8	–	–	–	8	–	–	–	–	–	–	8	–	–	2	–	–	1
71. Kenmare,	–	–	–	–	2	2	–	–	–	–	–	–	2	–	–	–	–	–	–
72. Kilkeel,	–	25	–	–	–	25	24	1	5	–	–	30	55	4	9	6	2	19	26
73. Kilkenny,	1	17	6	–	–	24	–	1	1	–	–	2	26	–	4	4	2	2	6
74. Killarney,	–	5	–	–	–	5	–	–	1	–	–	1	6	–	2	–	1	1	1
75. Kilmallock,	–	3	1	–	–	4	–	–	–	–	–	–	4	1	1	1	–	–	–
76. Kilrush,	–	4	–	–	–	4	–	–	–	–	–	–	4	–	–	–	–	–	–
77. Kinsale,	–	12	10	–	–	22	–	–	1	–	–	1	23	–	6	2	–	2	4
78. Larne,	–	16	–	–	–	16	119	5	5	–	–	129	145	3	32	17	7	28	43
79. Letterkenny,	–	13	1	–	–	14	23	1	–	–	–	24	38	1	2	5	2	9	16
80. Limerick,	–	40	23	–	–	63	2	–	3	2	–	7	70	1	7	5	7	5	22
81. Lisburn,	–	72	62	–	1	135	71	2	80	–	–	153	288	8	52	41	16	93	143
82. Lismore,	–	2	1	–	–	3	–	–	–	–	–	–	3	–	–	–	–	–	1
83. Lisnaskea,	–	31	5	–	–	36	1	–	5	–	–	6	42	2	3	5	2	13	21
84. Listowel,	–	6	3	–	–	9	–	–	1	–	–	1	10	–	5	1	1	3	1
85. Londonderry,	–	69	5	–	–	74	80	10	28	–	–	118	192	4	19	21	14	64	78
86. Longford,	–	16	1	1	–	18	4	–	1	–	–	5	23	–	2	4	2	2	5
87. Loughrea,	–	4	–	–	–	4	–	–	1	–	–	1	5	–	–	3	–	–	1
88. Lurgan,	–	201	4	–	–	205	42	1	41	–	–	84	289	17	68	32	14	129	198
89. Macroom,	–	2	1	–	–	3	–	–	–	–	–	–	3	–	1	–	–	–	–
90. Magherafelt,	–	57	3	–	–	60	65	2	23	–	–	90	150	8	17	13	4	55	78
91. Mallow,	–	6	10	–	–	16	1	–	2	–	–	3	19	–	7	1	1	7	10
92. Manorhamilton,	–	15	1	–	–	16	–	–	–	–	–	–	16	–	3	1	1	4	6
93. Middleton,	–	13	7	–	–	20	–	–	2	–	–	2	22	–	2	4	–	2	5
94. Millford,	–	21	2	–	–	23	24	–	–	–	–	24	47	–	14	6	4	23	23
95. Mohill,	–	14	5	–	–	19	–	–	–	–	–	–	19	–	5	3	1	3	8
96. Monaghan,	–	40	2	–	–	42	21	–	3	–	–	24	66	1	6	13	4	18	23
97. Mountmellick,	–	20	5	–	–	25	2	–	6	–	–	8	33	–	3	8	3	2	4
98. Mullingar,	–	17	–	–	1	18	–	–	1	–	–	1	19	–	3	5	1	–	1
99. Naas,	–	21	43	–	–	64	5	2	8	–	–	15	79	–	8	4	7	6	23
100. Navan,	–	12	–	–	1	13	–	–	–	–	–	–	13	–	2	–	–	–	–
101. Nenagh,	–	18	–	–	–	18	–	–	1	–	–	1	19	–	1	3	–	1	3
102. Newcastle,	–	5	–	–	–	5	–	–	–	–	–	–	5	1	2	1	–	–	–
103. New Ross,	–	4	1	–	1	6	–	–	–	–	–	–	6	–	1	1	–	–	–
104. Newry,	–	70	–	–	–	70	56	1	24	–	–	81	151	8	27	15	3	36	53
105. Newtownards,	–	48	12	–	–	60	148	3	61	–	–	212	272	5	44	34	18	71	121
106. Newtownlimavady,	–	15	4	–	–	19	50	–	–	–	–	50	69	2	9	11	3	11	24
107. Oldcastle,	–	9	1	–	–	10	4	–	1	–	–	5	15	–	5	4	1	2	3
108. Omagh,	1	65	1	–	–	67	24	–	–	–	–	24	91	8	17	13	8	23	40
109. Parsonstown,	–	21	9	–	–	30	6	–	2	–	–	8	38	1	14	5	5	2	8
110. Rathdown,	2	59	16	1	1	79	6	1	25	–	–	32	111	1	15	15	7	10	19
111. Rathdrum,	–	21	5	–	–	26	–	1	5	–	–	6	32	–	8	2	2	11	11
112. Rathkeale,	–	11	3	–	–	14	–	–	2	–	–	2	16	1	5	1	3	3	3
113. Roscommon,	–	5	–	–	–	5	–	–	–	–	–	–	5	–	–	–	–	–	–
114. Roscrea,	–	6	2	–	–	8	–	–	1	–	–	1	9	–	1	–	–	3	3
115. Scarriff,	–	1	1	–	–	2	–	–	–	–	–	–	2	–	–	–	1	1	–
116. Shillelagh,	–	12	6	–	–	18	–	–	6	–	–	6	24	–	3	2	–	5	6
117. Skibbereen,	–	12	7	–	1	20	–	1	5	–	–	6	26	1	9	–	1	6	7
118. Sligo,	–	60	–	–	–	60	4	2	6	–	–	12	72	2	18	9	4	2	13
119. Strabane,	–	52	5	–	–	57	79	2	7	–	–	88	145	6	26	17	4	49	68
120. Stranorlar,	–	5	–	–	–	5	11	–	2	–	–	13	18	1	2	–	1	5	5
121. Swineford,	–	–	1	–	1	2	–	–	–	–	–	–	2	–	1	–	–	–	–
122. Thurles,	–	13	3	3	–	19	–	–	2	–	–	2	21	2	8	2	–	1	7
123. Tipperary,	–	4	–	–	1	5	1	–	–	–	–	1	6	–	–	1	1	–	1
124. Tralee,	–	4	5	–	–	9	–	–	1	–	–	1	10	–	1	3	1	3	3
125. Trim,	–	13	1	–	–	14	–	–	–	–	–	–	14	–	–	1	–	2	3
126. Tuam,	–	2	1	–	1	4	–	–	–	–	–	–	4	–	–	–	–	–	1
127. Tullamore,	–	10	–	–	–	10	–	–	1	–	–	1	11	–	1	–	–	2	2
128. Waterford,	–	22	9	–	–	31	5	–	2	1	–	8	39	–	7	2	3	1	11
129. Westport,	–	7	5	–	–	12	–	–	1	–	–	1	13	–	4	2	1	3	4
130. Wexford,	1	6	–	–	–	7	1	–	–	–	–	1	8	–	1	2	–	1	–
TOTAL OF IRELAND,	13	3,443	1,023	14	21	4,514	2,362	101	1,200	11	–	3,674	8,188	259	1,294	942	485	1,929	3,126

ABSTRACT of MARRIAGES Registered in Ireland during each Quarter of the Year 1863.

DISTRICTS.	Counties in which Situate.	Quarter ended				TOTAL.
		March 31.	June 30.	Sept. 30.	Dec. 31.	
1. Abbeyleix,	Queen's County,	3	2	2	4	11
2. Antrim,	Antrim,	37	50	38	51	176
3. Ardee,	Louth, Meath,	3	5	2	1	11
4. Armagh,	Armagh, Tyrone,	54	54	52	84	244
5. Athlone,	Roscommon, Westmeath,	10	18	6	6	40
6. Athy,	Kildare, Queen's County, King's County,	1	1	–	5	7
7. Bailieborough,	Cavan, Meath,	12	5	9	10	36
8. Ballina,	Mayo, Sligo,	5	6	6	4	21
9. Ballinasloe,	Galway, Roscommon,	6	9	–	4	19
10. Ballinrobe,	Mayo, Galway,	2	–	3	2	7
11. Ballycastle,	Antrim,	9	12	11	16	48
12. Ballymena,	Antrim,	94	67	76	102	339
13. Ballymoney,	Antrim, Londonderry,	40	30	24	48	142
14. Ballyshannon,	Donegal, Fermanagh, Leitrim,	5	5	3	6	19
15. Balrothery,	Dublin,	2	–	1	2	5
16. Baltinglass,	Wicklow, Dublin, Kildare, Carlow,	4	5	6	4	19
17. Banbridge,	Down, Armagh,	75	73	72	88	308
18. Bandon,	Cork,	12	7	11	9	39
19. Bantry,	Cork,	1	5	–	1	7
20. Belfast,	Antrim, Down,	208	228	245	314	995
21. Boyle,	Roscommon, Sligo, Mayo,	3	4	3	1	11
22. Cahersiveen,	Kerry,	1	–	–	–	1
23. Callan,	Kilkenny, Tipperary,	1	1	1	1	4
24. Carlow,	Carlow, Queen's County, Kildare,	8	7	4	9	28
25. Carrickmacross,	Monaghan,	2	–	2	–	4
26. Carrick-on-Shannon,	Leitrim, Roscommon,	5	3	3	1	12
27. Carrick-on-Suir,	Tipperary, Kilkenny, Waterford,	5	1	–	2	8
28. Cashel,	Tipperary,	3	6	3	4	16
29. Castlebar,	Mayo,	–	–	1	–	1
30. Castleblayney,	Monaghan, Armagh,	16	15	14	13	58
31. Castlederg,	Tyrone,	8	3	7	9	27
32. Castlereagh,	Roscommon, Mayo, Galway,	1	1	2	1	5
33. Cavan,	Cavan,	20	23	31	10	84
34. Celbridge,	Kildare, Dublin, Meath,	–	2	–	1	3
35. Clifden,	Galway,	3	1	1	–	5
36. Clogheen,	Tipperary, Limerick,	2	2	4	2	10
37. Clogher,	Tyrone, Monaghan,	16	10	11	11	48
38. Clones,	Monaghan, Fermanagh,	20	14	6	15	55
39. Clonmel,	Tipperary, Waterford,	10	7	–	3	20
40. Coleraine,	Londonderry, Antrim,	62	37	39	63	201
41. Cookstown,	Tyrone,	23	22	19	35	99
42. Cootehill,	Cavan, Monaghan,	17	15	14	16	62
43. Cork,	Cork County and City,	59	62	51	55	227
44. Donegal,	Donegal,	14	3	6	10	33
45. Downpatrick,	Down,	51	62	56	72	241
46. Drogheda,	Louth, Meath,	–	6	2	3	11
47. Dublin, North,	Dublin County and City,	92	82	85	71	330
48. Dublin, South,	Dublin County and City,	113	154	172	133	572
49. Dundalk,	Louth, Armagh, Monaghan,	11	8	8	7	34
50. Dunfanaghy,	Donegal,	3	1	1	2	7
51. Dungannon,	Tyrone,	54	28	26	45	153
52. Dungarvan,	Waterford,	1	1	–	–	2
53. Dunmanway,	Cork,	4	–	–	–	4
54. Dunshaughlin,	Meath, Dublin,	–	–	–	3	3
55. Edenderry,	King's County, Kildare, Meath,	1	2	2	2	7
56. Ennis,	Clare,	1	2	1	1	5
57. Enniscorthy,	Wexford, Carlow,	7	10	6	3	26
58. Enniskillen,	Fermanagh, Cavan, Tyrone,	35	22	23	21	101
59. Ennistymon,	Clare,	–	–	1	–	1
60. Fermoy,	Cork,	7	17	13	16	53
61. Galway,	Galway,	1	4	3	3	11
62. Glenties,	Donegal,	4	4	2	5	15
63. Gorey,	Wexford,	9	7	4	9	29
64. Gort,	Galway, Clare,	1	–	–	–	1
65. Gortin.	Tyrone,	6	4	3	3	16
66. Granard,	Longford, Westmeath, Cavan,	1	6	2	4	13

[*continued.*

ABSTRACT of MARRIAGES Registered in Ireland during each Quarter of the Year 1863—*continued.*

DISTRICTS.	Counties in which Situate.	Quarter ended				TOTAL.
		March 31.	June 30.	Sept. 30.	Dec. 31.	
67. Inishowen,	Donegal,	10	3	8	5	26
68. Irvinestown,	Fermanagh, Tyrone,	12	6	3	17	38
69. Kanturk,	Cork, Kerry,	–	1	–	–	1
70. Kells,	Meath, Westmeath, Cavan,	2	1	3	2	8
71. Kenmare,	Kerry,	–	–	2	–	2
72. Kilkeel,	Down,	18	15	9	13	55
73. Kilkenny,	Kilkenny,	6	10	5	5	26
74. Killarney,	Kerry,	3	2	1	–	6
75. Kilmallock,	Limerick, Cork,	2	–	1	1	4
76. Kilrush,	Clare,	–	1	1	2	4
77. Kinsale,	Cork,	5	5	6	7	23
78. Larne,	Antrim,	37	25	37	46	145
79. Letterkenny,	Donegal,	20	4	6	8	38
80. Limerick,	Limerick, Clare,	13	18	23	16	70
81. Lisburn,	Antrim, Down,	60	69	75	84	288
82. Lismore,	Waterford, Cork,	3	–	–	–	3
83. Lisnaskea,	Fermanagh,	13	6	11	12	42
84. Listowel,	Kerry,	1	4	2	3	10
85. Londonderry,	Londonderry, Donegal,	56	44	37	55	192
86. Longford	Longford, Roscommon,	6	3	4	10	23
87. Loughrea,	Galway,	3	1	1	–	5
88. Lurgan,	Armagh, Down, Antrim,	75	54	79	81	289
89. Macroom,	Cork,	–	2	1	–	3
90. Magherafelt.	Londonderry,	36	39	29	46	150
91. Mallow,	Cork,	3	7	4	5	19
92. Manorhamilon,	Leitrim,	3	5	3	5	16
93. Middleton,	Cork,	4	7	4	7	22
94. Millford,	Donegal,	23	11	6	7	47
95. Mohill,	Leitrim,	2	8	3	6	19
96. Monaghan,	Monaghan,	20	21	8	17	66
97. Mountmellick,	Queen's County, King's County,	9	7	11	6	33
98. Mullingar,	Westmeath,	5	4	3	7	19
99. Naas,	Kildare, Dublin, Wicklow,	17	25	18	19	79
100. Navan,	Meath,	1	4	3	5	13
101. Nenagh,	Tipperary, Galway,	5	4	5	5	19
102. Newcastle,	Limerick,	1	3	1	–	5
103. New Ross,	Wexford, Kilkenny, Carlow,	2	2	1	1	6
104. Newry,	Down, Armagh,	35	40	42	34	151
105. Newtownards,	Down,	65	54	58	95	272
106. Newtownlimavady,	Londonderry,	13	18	15	23	69
107. Oldcastle,	Meath, Westmeath, Cavan,	2	4	4	5	15
108. Omagh,	Tyrone,	27	12	21	31	91
109. Parsonstown,	King's County, Tipperary,	10	5	8	15	38
110. Rathdown,	Dublin, Wicklow,	27	22	36	26	111
111. Rathdrum,	Wicklow,	9	6	11	6	32
112. Rathkeale,	Limerick,	3	4	5	4	16
113. Roscommon,	Roscommon, Galway,	1	1	1	2	5
114. Roscrea,	Tipperary, King's County, Queen's County,	4	1	2	2	9
115. Scarriff,	Clare, Galway,	–	1	1	–	2
116. Shillelagh,	Wicklow, Carlow,	8	5	1	10	24
117. Skibbereen,	Cork,	11	4	6	5	26
118. Sligo,	Sligo,	25	12	17	18	72
119. Strabane,	Tyrone, Donegal,	39	29	32	45	145
120. Stranorlar,	Donegal,	4	1	5	8	18
121. Swineford,	Mayo, Sligo,	1	–	–	1	2
122. Thurles,	Tipperary,	9	5	4	3	21
123. Tipperary,	Tipperary, Limerick,	2	–	1	3	6
124. Tralee,	Kerry,	–	3	2	5	10
125. Trim,	Meath,	1	3	6	4	14
126. Tuam,	Galway,	1	1	1	1	4
127. Tullamore,	King's County, Westmeath,	4	4	1	2	11
128. Waterford,	Waterford, Kilkenny,	13	6	12	8	39
129. Westport,	Mayo,	6	2	1	4	13
130. Wexford,	Wexford,	1	1	2	4	8
	TOTAL OF IRELAND,	2,081	1,906	1,908	2,293	8,188

ABSTRACT of MARRIAGES Registered in each County and Province in Ireland during the Year 1863.

COUNTIES AND PROVINCES, INCLUDING CITIES.	MARRIAGES. According to the Rites of the Established Church. Special License.	License.	Banns.	Registrar's Certificate.	Not stated by which of the foregoing forms.	Total.	MARRIAGES. Not according to the Rites of the Established Church. In Registered Presbyterian Meeting-houses.	In Registered Buildings.	In the Registrar's Office.	Society of Friends.	Jews.	Total.	TOTAL MARRIAGES.	Not of Age. Men.	Not of Age. Women.	Re-married. Widowers.	Re-married. Widows.	Signed with Marks. Men.	Signed with Marks. Women.
COUNTIES.																			
Antrim,	–	450	208	1	–	659	911	31	339	2	–	1,283	1,942	67	3[illegible]	2[illegible]	114	5[illegible]	882
Armagh,	–	375	10	–	–	385	110	5	85	1	–	201	586	3[illegible]	10[illegible]	[illegible]	26	214	327
Cavan,	–	108	15	–	–	123	26	1	14	–	–	41	164	4	20	2[illegible]	11	34	44
Donegal,	–	127	9	–	–	136	121	5	9	–	–	135	271	6	48	5[illegible]	16	8[illegible]	113
Down,	1	387	82	–	1	471	518	12	171	–	–	701	1,172	5[illegible]	20[illegible]	18[illegible]	49	327	505
Fermanagh,	–	132	14	–	1	147	9	1	45	–	–	55	202	[illegible]	26	2[illegible]	14	5[illegible]	96
Londonderry,	–	176	12	–	–	188	280	16	99	–	–	395	583	3[illegible]	69	[illegible]	2[illegible]	18[illegible]	258
Monaghan,	–	80	4	–	–	84	69	–	23	–	–	92	176	[illegible]	19	2[illegible]	[illegible]	46	69
Tyrone,	–	289	6	–	–	296	220	6	26	1	–	253	549	3[illegible]	8[illegible]	5[illegible]	3[illegible]	161	264
Province of ULSTER,	2	2,124	365	1	2	2,489	2,264	77	811	4	–	3,156	5,645	2[illegible]	9[illegible]	6[illegible]	2[illegible]	1,660	2,558
COUNTIES.																			
Clare,	–	6	1	–	1	8	–	–	2	–	–	2	10	–	1	1	1	3	2
Cork,	–	174	169	2	2	347	11	6	61	1	–	79	426	6	88	47	27	70	186
Kerry,	1	15	8	–	2	26	–	–	3	–	–	3	29	–	8	4	3	7	5
Limerick,	–	59	27	–	–	86	2	–	5	2	–	9	95	4	14	7	10	8	25
Tipperary,	–	66	9	5	2	82	5	–	8	2	–	15	97	3	13	8	1	7	24
Waterford,	–	28	10	–	–	38	6	–	2	1	–	9	47	–	7	2	3	1	18
Province of MUNSTER,	1	348	224	7	7	587	24	6	81	6	–	117	704	13	131	69	45	9[illegible]	365
COUNTIES.																			
Carlow,	–	26	8	–	1	35	–	–	1	–	–	1	36	–	6	5	1	6	8
Dublin,	7	406	300	3	3	719	37	10	232	1	–	280	999	18	112	114	2[illegible]	77	184
Kildare,	–	28	44	–	–	72	5	2	10	–	–	17	89	–	10	6	8	7	23
Kilkenny,	1	24	7	–	1	33	–	1	1	–	–	2	35	–	5	6	2	3	7
King's County,	–	35	9	–	–	44	6	–	4	–	–	10	54	1	17	5	5	4	10
Longford,	–	21	3	1	–	25	6	–	1	–	–	7	32	–	3	4	3	2	5
Louth,	–	38	–	–	–	38	8	–	5	–	–	13	51	–	10	4	1	2	9
Meath,	–	40	2	–	2	44	–	–	1	–	–	1	45	–	4	2	–	4	6
Queen's County,	–	29	11	1	–	41	2	–	6	–	–	8	49	–	2	10	3	4	5
Westmeath,	–	32	1	–	1	34	–	–	8	–	–	8	42	–	7	6	1	1	10
Wexford,	1	43	9	–	1	54	1	1	12	–	–	14	68	2	8	15	2	12	13
Wicklow,	1	55	11	–	1	68	3	1	14	–	–	18	86	–	13	6	4	21	18
Province of LEINSTER,	10	777	405	5	10	1,207	68	15	295	1	–	379	1,586	21	197	18[illegible]	126	14[illegible]	298
COUNTIES.																			
Galway,	–	36	2	–	1	39	1	1	6	–	–	8	47	–	7	7	3	2	7
Leitrim,	–	35	8	–	–	43	–	–	–	–	–	–	43	1	10	4	2	11	16
Mayo,	–	22	8	–	1	31	1	–	1	–	–	2	33	–	10	8	3	5	9
Roscommon,	–	28	16	1	–	45	–	–	–	–	–	–	45	2	11	3	4	8	18
Sligo,	–	73	–	–	–	73	4	2	6	–	–	12	85	2	20	11	6	4	15
Province of CONNAUGHT,	–	194	34	1	2	231	6	3	13	–	–	22	253	5	58	2[illegible]	18	3[illegible]	65
TOTAL OF IRELAND,	13	3,443	1,023	14	21	4,514	2,362	101	1,200	11	–	3,674	8,188	259	1,234	942	485	1,929	3,126

ABSTRACT of MARRIAGES Registered in every County and Province in Ireland, during each Quarter of the Year 1863.

COUNTIES AND PROVINCES, INCLUDING CITIES.	Quarter ended March 31.	June 30.	September 30.	December 31.	TOTAL.
COUNTIES.					
Antrim,	458	428	458	598	1,942
Armagh,	137	118	153	178	586
Cavan,	44	38	50	32	164
Donegal,	102	45	55	69	271
Down,	267	281	272	352	1,172
Fermanagh,	66	40	39	57	202
Londonderry,	159	132	111	181	583
Monaghan,	54	50	31	41	176
Tyrone,	163	108	107	171	549
Province of ULSTER,	1,450	1,240	1,276	1,679	5,645
COUNTIES.					
Clare,	1	3	3	3	10
Cork,	107	117	96	106	426
Kerry,	5	9	7	8	29
Limerick,	19	25	31	20	95
Tipperary,	34	25	18	20	97
Waterford,	19	7	12	9	47
Province of MUNSTER,	185	186	167	166	704
COUNTIES.					
Carlow,	8	10	6	12	36
Dublin,	231	254	290	224	999
Kildare,	19	27	20	23	89
Kilkenny,	10	12	6	7	35
King's County,	14	10	11	19	54
Longford,	7	7	4	14	32
Louth,	13	16	12	10	51
Meath,	4	13	12	16	45
Queen's County,	14	11	11	13	49
Westmeath,	10	16	6	10	42
Wexford,	18	20	13	17	68
Wicklow,	23	17	20	26	86
Province of LEINSTER,	371	413	411	391	1,586
COUNTIES.					
Galway,	15	17	7	8	47
Leitrim,	10	13	8	12	43
Mayo,	12	5	7	9	33
Roscommon,	10	16	11	8	45
Sligo,	28	16	21	20	85
Province of CONNAUGHT,	75	67	54	57	253
TOTAL OF IRELAND,	2,081	1,906	1,908	2,293	8,188

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FOR HER MAJESTY'S STATIONERY OFFICE.

CHARITY COMMISSION.

TWELFTH REPORT

OF

THE CHARITY COMMISSIONERS

FOR

ENGLAND AND WALES;

WITH

AN APPENDIX.

1864.

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
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3461

TWELFTH REPORT

OF

THE CHARITY COMMISSIONERS FOR ENGLAND AND WALES.

TO THE QUEEN'S MOST EXCELLENT MAJESTY.

MAY IT PLEASE YOUR MAJESTY,

WE, the Charity Commissioners for England and Wales, humbly submit to Your Majesty the following Report of our proceedings during the year 1864.

The special applications for our intervention with respect to very various endowments continue to increase. The average number of such applications received during the years 1861, 1862, and 1863 was approximately 1239. The additional number received during the past year has been 1369.

A considerable portion of such cases may be disposed of by correspondence with the applicants and other parties, or in personal conference with them. With reference to other cases requiring a more formal conclusion, we state as on prior occasions in the following table the number and principal objects of the Orders which it has been our duty to make during the past year, the numbers of orders made for similar purposes during the preceding year being also added for comparison.

Objects of Orders.	Number. During the year 1864.	Number. During the year 1863.
Authorizing applications to the Court of Chancery	15	30
„ „ the County Courts	5	1
„ „ the Courts of Common Law	6	6
Appointing and removing trustees, and establishing schemes, or for some of those purposes	291	351
Certifying cases to the Attorney-General, with a view to the institution by him of ex-officio proceedings	6	2
Conveying advice to trustees for their protection and indemnity on questions involving their personal responsibility	71	57
Authorizing sales of charity estates	257	151
„ exchanges of such estates*	4	6
„ building, mining, or other special leases of charity estates	150	165
„ improvements of such estates, and the raising or appropriation of the necessary funds	44	41
„ the compromise of disputed claims	20	27
„ transfers of stock or money to "The Official Trustees of Charitable Funds"	671	610
For various purposes not comprised under any of the foregoing heads	188	165
Total	1,728	1,612

The continued experience which has been had of the jurisdiction newly extended to our Board by "The Charitable Trusts Act, 1860," is very satisfactory, particularly in the great facility afforded by it for the appointment of fit Trustees, and the establishment of proper schemes for the application of Charitable Endowments.

We have been already enabled to make 1129 Orders in exercise of that jurisdiction, affording to very numerous Charities important benefits, which could otherwise have been obtained only by proceedings in the judicial Courts attended with very inconvenient expense, and with formalities reluctantly undertaken by Trustees or others having no beneficial interest in their result. The proceedings for the same objects before our Board, though guarded by ample publicity, are concluded in a course of great simplicity and without cost.

* The power to effect exchanges of land vested in the Inclosure Commissioners being more summary and beneficial than the power vested in our Board such transactions are most generally referred to their cognizance.

It may be attributable mainly to the previous publicity given to our intended Orders that, notwithstanding the great facility of appealing from them permitted by the law, no instance has hitherto occurred of their reversal or variation. Only one such appeal has yet been made, and that in an irregular course, and has been dismissed.

In our last Report we ventured to advert to certain restrictions imposed by the law upon the exercise of this beneficial jurisdiction, and the relaxation of which would, in our humble judgment, be of public advantage.

The aggregate amount of various Stocks transferred to "The Official Trustees of Charitable Funds" during the past year is 459,162*l.* 10*s.* 8*d.*, being a large excess over the amount transferred to them in any previous year. Sums of Stock amounting together to 7,927*l.* 4*s.* 9*d.* only have been re-transferred or sold by the Official Trustees during the year, principally for purposes of reinvestment in land.

At the close of the year the total amount of various Stocks vested in the Official Trustees was 2,085,281*l.* 3*s.* 7*d.*, held by them upon 3586 accounts for the separate Charities to which they belong.

We subjoin a statement in continuation of those given in our former Reports, showing the amounts of Stock respectively transferred to "The Official Trustees of Charitable Funds," and re-transferred or sold by them (principally for reinvestments in land) in each year from 1854 inclusively.

	Amount of Stock transferred.	Amount re-transferred.
	£ *s.* *d.*	£ *s.* *d.*
In the year 1854	6,360 16 11	—
„ 1855	21,158 17 3	—
„ 1856	118,115 4 2	32 2 6
„ 1857	159,735 11 1	4,023 11 8
„ 1858	110,417 12 1	5,650 16 8
„ 1859	189,084 10 10	1,436 1 9
„ 1860	202,816 17 2	1,780 17 7
„ 1861	293,786 17 0	7,530 9 6
„ 1862	330,131 10 2	31,926 16 11
„ 1863	269,488 18 11	14,670 1 4
„ 1864	459,162 10 8	7,927 4 9
Total	£2,160,259 6 3	74,978 2 8
Deduct amount re-transferred	74,978 2 8	
Total amount of stocks standing in name of "The Official Trustees of Charitable Funds," 31st December 1864	£2,085,281 3 7	

We have set forth in Appendix the particulars of the Stocks transferred to the Official Trustees during the past year, distinguishing the several Charities entitled thereto, and the amounts belonging to each.

377 Charitable Foundations, either newly created or not previously recorded, have been brought under our observation during the past year, the particulars of which are in the course of registration in our Office. We have received during the year 14,207 returns of account of the receipts and expenditure of Charities.

It would be very satisfactory if the Trustees of such foundations, considering how largely their advantage may be promoted by the publicity of their administration, and the justice with which information may be expected from themselves as to the discharge of public trusts undertaken by them, would more readily comply with the law which requires from them for such purposes these yearly returns.

The compilation of the general Digest of Endowed Charities referred to in our former Reports has been diligently proceeded with under our direction.

The work is now complete (to the full extent of the information which we have been enabled to procure) for the following Counties; namely,

Bedfordshire,
Berkshire,
Buckinghamshire,
Cheshire,
Cornwall,
Dorsetshire,
Essex,
Hertfordshire,
Huntingdonshire,
Kent,
Leicestershire,
Middlesex,
Norfolk,
Shropshire,
Surrey,

and as to the parochial charities of the cities of London and Westminster, and considerable progress has been made in its compilation for several other counties.

We have adverted particularly in our last Report to the great difficulty of rendering any such collection certainly complete, but we venture to think that the extended information actually collected will be found to be of general utility and interest whenever measures may be adopted for its publication. It will be for Parliament to determine upon the expediency of causing the Digest to be printed, either on its completion for separate counties or after a greater extension of the work, if it should form a sufficient estimate of the value of such a record.

All which we humbly report to Your Majesty.

In witness whereof we have directed our official seal to be hereto affixed, this twenty-fifth day of February one thousand eight hundred and sixty-five.

(L.S.)

APPENDIX.

Particulars of Stocks transferred to "The Official Trustees of Charitable Funds," during the year ending 31st December 1864.

ABBREVIATIONS.

Cons. - Consolidated £3 per Cent. Annuities.
Red. - Reduced £3 per Cent. Annuities.
New - New £3 per Cent. Annuities.
N. 2½. - New £2 10s. per Cent. Annuities.

Locality or Designation of Charity.	Amount of Stock. £ s. d.	Description.
Abingdon (St. Helen) - Berks : Rev. Christopher Cleobury's Charity - - -	108 19 10	Cons.
Ackworth - - - York : The Poor's Estate - -	2,666 13 8	Cons.
Alresford (New) - Southampton : Jenny Harris' Charity - -	333 6 8	Cons.
Alrewas - - - Stafford : Francis Cobb's Charity - -	98 2 2	Cons.
Angmering - - - Sussex : Smart Augmentation Fund in aid of Older's School - -	300 2 6	Cons.
Appleford - - - Berks : Robert Skinner's Charity -	66 13 4	Cons.
Arlingham - - Gloucester : Charles Vale's Charity - -	219 3 7	Cons.
Ashburton - - - Devon : Robert Skinner's Charity -	33 6 8	Cons.
Ashby-cum-Fenby - - Lincoln : Rev. Woodthorpe Johnson's Gift in aid of Ashby Almshouses -	200 0 0	Cons.
Ashford Bowdler - - Salop : Mary Green's Charity - -	50 16 7	New.
Aston - - - Warwick : Sir Thomas Holte and Sir Robert Holte's Almshouses - -	3,000 0 0	Cons.
Atherstone - - Warwick : William Sharpe's Charity -	51 18 0	New.
	755 7 8	Cons.
Awre - - - Gloucester : Rev. Charles Sandiford's Charity	395 0 2	Cons.
Bakewell - - - Derby : Mary Hague's Charity - -	179 10 5	Cons.
Balderton. *See* Sleaford (New).		
Baldock - - - Herts : Almshouse Charity (Roe's Gift) -	222 10 8	Cons.
Fifteen-Houses Charity - -	959 11 1	Cons.
Bampton - - - Westmorland : Measand School - - -	421 10 8	Cons.
Banbury and Neithrop - Oxford : Paynton Pigott Stainsby Conant's Charity - - -	220 1 8	New.
John Brownsill's Charity - -	382 19 7	Cons.
Barkisland in Halifax - - York : School Endowed by Sarah Gledhill - - - -	3,269 15 1	Cons.
Barnes - - - Surrey : Workhouse Charity - -	306 12 3	Cons.
Barton - - Westmorland : Agnes Dudley's Charity - -	108 19 10	Cons.
Barton-in-Kirkby Lonsdale - - Westmorland : Margaret Hadwen's Charity -	10 18 1	New.
John Garnet's Charity - -	115 4 6	New.
Margaret Sharpe's Charity -	54 17 3	New.
Beaumont (Godfrey) Charity - -	2,037 0 9	Cons.
Bedford (St. Paul and St. Mary) : Thomas Hawe's Charity - -	2,199 11 9	New.
Bedfont - - - Middlesex : Matthew Page's Charity - -	83 6 2	Red.
Bedingham - - - Norfolk : Phœbe Gooch's Charity - -	105 5 3	Cons.
Thomas Stone's Charity - -	50 0 0	Cons.
Bedwas. *See* Eglwysilan.		
Beechingstoke - - - Wilts : Rev. Charles Mayo's Charity -	100 0 0	New.
Besselsleigh - - - Berks : Rev. Christopher Cleobury's Charity - - -	55 4 10	Cons.
Betchworth - - Surrey : Mary Fenwicke's Charity -	375 19 1	Cons.
Betley - - - Stafford : Mary Lea's Charity - -	67 0 0	Cons.
William Palmer's Charity -	35 0 0	Cons.
Beverley (St. Mary) - - York : The Church Estate - -	1,863 16 4	Cons.
Bewdley - - Worcester : Free Grammar School - -	200 0 0	Cons.
Bickerton - - - Devon : Robert Skinner's Charity -	16 13 4	Cons.
Bilston - - - Stafford : Humfry Perye's Charity - -	133 6 8	Cons.
Bingley - - - - York : Bingley School and Charity Estate	1,680 3 11	Cons.
Birmingham - - Warwick : George Hill's Charity - -	1,251 5 7	New.
Bishop Wearmouth - - Durham : Jane Gibson's Almshouses -	707 14 1	Cons.

Locality or Designation of Charity.	Amount of Stock. £ s. d.	Description.
Bisley - - - Gloucester :		
Blue Coat School (John Taylor's Charity) - - -	55 15 9	Cons.
Blencowe (Little). *See* Greystoke.		
Boothstown in Worsley - Lancaster :		
Thomas Farnworth's Charity -	50 10 0	Cons.
Borden - - - - Kent :		
William Barrow's Charity -	859 9 4	Cons.
Boston - - - Lincoln :		
Susanna Bott's Bequest for Blue Coat School - - -	109 11 9	Cons.
Bottisham - - - Cambridge :		
Rev. Wm. Pugh's Charity -	3,945 16 8	Cons.
Elizabeth Jenyn's Charity -	200 0 0	Cons.
Bowdon - - - Chester :		
Thomas Bagshaw's Charity -	108 19 10	Cons.
Boxford - - - Berks :		
Charities of Gregory Iremonger, Richard Whare, and John Shepherd - - -	100 0 0	Cons.
Braybrooke - - Northampton :		
Rev. John Field's National School Charity - - -	220 0 0	Cons.
Brede - - - Sussex :		
Rev. Robert Hele Selby Hele's Charity - - -	303 13 1	Cons.
Bredwardine. *See* Staunton-upon-Wye.		
Bretton (West) in Silkstone and Sandall - - } York :		
Poor's Land - - -	6 5 8	Bank Stock.
Breward (St.) - - Cornwall :		
Robert Skinner's Charity - -	16 13 4	Cons.
Bridell - - - Pembroke :		
Llangoedmore and Cardigan (City), both in Cardigan.		
Sophia Lloyd's Charities - -	540 4 6	Cons.
Bridgnorth (St. Leonard) - Salop :		
Palmer's Hospital - -	4,353 15 0	Cons.
Bequests of Mary Childe, Alderman Thos. Milner, Sarah Bell, and Mary Izzard for Almshouse - - - - -	410 4 8	Cons.
Brimpton - - - Berks :		
Charity of Right Honble. Anne Frances Countess of Falmouth for Schoolmistress of Parish School - - - -	666 13 4	Cons.
Do. Do. Almshouses -	3,000 0 0	Cons.
Bristol :		
Colston's Almshouse - -	2,630 5 3	Cons.
(Christchurch) Church Lands -	1,128 7 0	Cons.
(St. John Baptist) do. - -	655 14 9	Cons.
(All Saints) do. - -	735 14 4	Cons.
Brixham - - - Devon :		
Lang's Gift - - -	1,342 13 2	Cons.
Church Lands - - -	223 15 5	Cons.
Broadhembury - - Devon :		
Poor's Money - - -	70 14 11	Cons.
William Ball's Charity - -	210 10 6	Cons.
Thomas Patch's Charity - -	49 7 5	Cons.
Sedwill Mill's Charity - -	98 15 4	Cons.
Dorothy Drewe's Charity -	197 10 7	Cons.
Broadtown (Christchurch) in Broad Hinton - - - Wilts :		
Church Repair Fund - -	100 0 0	Cons.
Broxbourne - - Herts :		
Dame Lætitia Monson's Charity -	164 12 2	Cons.

Locality or Designation of Charity.	Amount of Stock. £ s. d.	Description.
Burton-on-Trent - - Stafford :		
Richard Alsop's Charity -	13,143 1 1	Cons.
Finney's Charity - -	1,722 17 2	Cons.
The Town Lands - -	1,670 6 7	Cons.
Ellen Parker's Almshouses -	7,193 17 7	Cons.
Almond's Charity - -	113 0 8	Cons.
Bury - - Huntingdon :		
Elizabeth West's Charity - -	520 6 3	Red.
Bury St. Edmund's - - Suffolk :		
Guildhall Feoffment - -	3,009 3 2	Cons.
Caerleon - - - Monmouth :		
The Charity School - -	44 13 5	Cons.
Camberwell or Camerwell - Surrey :		
Free Grammar School of Edward Wilson, Clerk - -	1,061 5 5	Cons.
Cambridge (St. Mary the Great) :		
United Charities of Morden, Duport, King, and Smith -	603 11 4	Cons.
Camerwell. *See* Camberwell.		
Canterbury - - - Kent :		
Daniel Decafour's bequest for inmates of Harris' Almshouses -	500 0 0	New.
Cardigan. *See* Bridell.		
Carmarthen - - Carmarthen :		
David Morris' Charity - -	1,983 9 5	Cons.
Caversham - - Oxford :		
Ann Burchett's Charity for perpetuating the preaching of the Gospel in a Chapel - -	1,634 17 7	Cons.
Caverswall - - - Stafford :		
Harriet Parker's Charity - -	178 4 4	New.
Joseph Wilshaw's Charity -	413 2 4	N. 2½.
Chalfont (St. Peter) - - Bucks :		
Maria Taylor's Charity - -	330 5 6	Cons
Isabella Evans' Charity - -	200 0 0	Cons.
William Courtney's Charity -	400 0 0	Red.
Rev. George Gleed's Bequest (Church) -	1,129 18 10	Red.
Do. - (Poor) -	564 19 5	Red.
Chalgrave - - Bedford :		
James Read's Charity - -	500 0 0	Cons.
Chapel-en-le-Frith - - Derby :		
Edward and Mary Dixon's Charity - - -	901 13 2	Cons.
Robert Kirk's Charity - -	134 12 10	Cons.
Charlton Marshall. *See* Spetisbury.		
Cheadle - - - Stafford :		
Edward Smith Grosvenor's Charity	107 10 10	Cons.
Cheddar - - Somerset :		
Sarah Comer's Charity - -	6,052 2 11	Cons.
Benefaction for second poor -	214 16 6	New.
Chelmsford - - - Essex :		
Matthew Joyce's Charity -	166 13 4	Cons.
Ann Johnson's Charity - -	873 7 4	Cons.
Chelsea - - Middlesex :		
Elizabeth Dennis Denyer's Charity - - - -	6,066 13 4	Cons.
Richard Guildford's Charity -	333 13 4	Cons.
Mary Rogers' Charity - -	290 6 5	Cons.
Cheltenham (St. Paul's) - Gloucester :		
Catherine Ball's bequest for widows - - -	29 4 3	Cons.
Chertsey - - Surrey :		
Ann Holden's Charity - -	5 15 0	Cons.
Chester - - - City :		
St. John's Hospital - -	139 11 8	Cons.

Locality or Designation of Charity.	Amount of Stock. £ s. d.	Description.
Chesterfield - - Derby : Godfrey Foljambe's Charity -	4,010 18 10	Cons.
Chetton, Glazeley, and Duexhill - - - Salop : Ann Vicker's Charity - -	200 0 0	New.
Chetwynd - - Salop : School Charities - - -	10 16 11	Cons.
Chipping Barnet - - Hertford : Keane Fitzgerald's Charity -	898 12 10	Red.
Chorley - - Lancaster : Hodgson's and other Charities -	493 3 4	Cons.
Chudleigh - - - Devon : Poor's and Parish Charity, otherwise the Market House - - -	33 8 8	Cons.
Cirencester - - - Gloucester : John Jones's Charity - -	96 3 7	Cons.
Claife in Hawkshead - Lancaster : Leonard Cowperthwaite's Charity	10 16 8	Cons.
James Braithwaite's Charity -	21 14 11	Cons.
Clanfield - - Southampton : John Richards' Charity - -	206 9 1	Red.
Claverton - - Somerset : Allen Tucker's Charity - -	51 14 1	New.
Clayhanger - - Devon : Charities of John Norman and Buckland Nutcombe Bluett -	150 0 0	Red.
Cleasby - - - York : Letitia Cornwallis' Charity -	358 15 5	Cons.
Clifford. *See* Peterchurch.		
Clungunford - - - Salop : School Charity - - -	37 0 0	Cons.
Poor's Stock - - -	113 0 0	Cons.
Clyst St. Lawrence - - Devon : William Godfrey's Gift - -	97 4 5	New.
Codsall - - - Stafford : School Charity and Derby and Hellman's Charities - -	95 18 1	Cons.
Colchester St. Leonard - Essex : New Year's Gift Charity - -	213 14 0	Cons.
Cole's Charity for Governesses, &c.	135 12 6	Cons.
Colmworth - - - Bedford : Rev. Robert Hele Selby Hele's Charity - - - - -	304 1 8	Cons.
Colsterworth - - Lincoln : Rev. Charles Turnor's Bequest to School - - - -	449 4 10	Cons.
Comb - - - Southampton : Robert Skinner's Charity -	33 6 8	Cons.
Constantine - - Cornwall : Robert Skinner's Charity -	66 13 4	Cons.
Cookham - - - Berks : Charities of Amos Wenman and Mrs. Brant - - - -	572 15 9	Cons.
Corbridge - - Northumberland : Troutbeck's Charity - -	768 16 9	Cons.
Coventry - - - (City) Wm. Pisford's Hospital - -	4,853 9 4	Cons.
Sir Thomas White's Charity -	409 19 2	Cons.
Cowick (East and West) - York : John Stephenson's Charity -	297 10 5	Cons.
Coxwell (Little) - - Berks : George Dyke's Charity - -	100 0 0	New.

Locality or Designation of Charity.	Amount of Stock. £ s. d.	Description.
Cramlington - Northumberland : Robert Storey's Charity -	124 4 6	Cons.
Crich - - - Derby : Rev. Thomas Cornthwaite's Charity	212 1 0	Cons.
Cricklade (St. Sampson) - Wilts : Henry Smyth's Charity - -	658 8 9	Cons.
Crockham - - - Kent : Wm. Stratton's Charity - -	13 18 7	Cons.
Hughes Minet's Charity - -	20 16 8	Cons.
Ralph Manning's Charity -	25 0 0	Cons.
Thos. Hardy's Charity - -	25 0 0	Red.
Chas. West's Charity - - -	25 0 0	Red.
Charity of Rev. Marmaduke Lewis	52 10 0	New.
Crosscrake in Heversham - Westmorland : Thomas Howson's Charity -	54 9 9	Cons.
The Crosscrake Charity - -	108 19 10	Cons.
Cross's Charity (John) -	76 14 9	Cons.
	435 8 1	
Croston - - Lancaster : Hannah Anderton's Charity -	175 11 6	Cons.
Croydon - - - Surrey : Trinity Hospital - - -	23 9 7	Cons.
Dalby (Little) - - Leicester : Charities of Judith Briggs, John Briggs, Unknown Donor, Francis Ellaby, and George Bunney - - - -	54 14 3	Cons.
Dallington - - Northampton : Joseph Jekyl Rye's Charity for Almshouses - -	409 18 2	New.
Dartmouth - Devon : Widows' Almshouse - -	153 12 9	Cons.
Datchet - - Buckingham : Robert Barker's Charity - -	400 0 0	Red.
Dedham - - - Essex : The Town Stock - - -	163 5 3	Cons.
Denham - - Buckingham : Charity called The Yew Tree Cottage Trust or Bell and Church Charity - - -	219 9 7	Cons
Derby (West) Kirkby and Woodside Quarter in Walton-on-the-Hill } Lancaster : Eleanor Glest's Charity - -	1,200 0 0	New.
Thomas Aspe - - -	1,564 4 11	New.
Deuxhill. *See* Chetton.		
Devizes (St. John) - - Wilts : Elizabeth Imber's Charity -	533 6 8	Cons.
Dodbrook - - - Devon : Parish Lands Charity - -	115 4 6	Cons.
Dodleston - Chester and Flint : Poor's Fund - - - -	79 6 10	Cons.
Dolton - - - Devon : Stock Money - - - -	26 13 2	Cons.
Doncaster - - - York : William Carr's Bequest to Deaf and Dumb Institution (School or Asylum) - - -	490 9 3	Cons.
Donhead (St. Mary) - - Wilts : Marianne Jones-Bateman's Charity	110 0 10	Red.
Dorstone - - Hereford : Meredith Maddy's Charity -	127 12 8	New.
	995 1 6	Cons.
Dover (St. James) - - Kent : Edward Phillips' Charity -	755 11 9	Cons.
Dame Susannah Boothby's Charity	504 18 10	Cons.
Peter Fector's Charity - -	100 0 0	Red.

Locality or Designation of Charity.	Amount of Stock. £ s. d.	Description.
Downham in Whalley - Lancaster :		
The School - - - -	1,409 19 6	Cons.
Dowsby - - - Lincoln :		
James Hurst's Charity - -	102 6 2	Cons.
Drapers in St. John Baptist. *See* Margate.		
Droitwich (*St. Andrew*) - Worcester :		
Harriet Rickett's Charity in aid of Talbot Barker's Charity -	55 7 11	Cons.
Harriet Rickett's Charity -	110 16 0	Cons.
Ditto (*St. Peter*) - Worcester :		
Mr. and Miss Harriet Rickett's Charities - - -	210 10 2	Cons.
William Haseldine's Charity -	110 19 0	Cons.
Mrs. Sarah Roberts' Charity -	166 13 4	Red.
Dudley - - Worcester :		
Blue Coat School and Samuel Taylor's Charity - -	1,904 0 10	Cons.
Newborough's or the Bread Charity	288 0 9	Cons.
Daniel Parson's Charity in Wolverhampton Street - -	9,590 5 9	Cons.
John Tandy's Charity - -	43 10 4	Cons.
Duexhill. *See* Chetton.		
Dunkeswell - - - Devon :		
Colonel Black's Charity for Sustentation of Church of Holy Trinity, Dunkeswell Abbey -	16 2 2	Cons.
Dupree's (Ann) Bequest for Spectacles for poor English Mechanics -	345 15 4	Cons.
Dursley - - Gloucester :		
School of Protestant Dissenters -	100 0 0	Cons.
Easthampstead - - Berks :		
Fuel Allotment - -	2,105 14 4	Cons.
Eaton - - - Norfolk :		
Mary Ann Yallop's Charity - -	190 18 0	Cons.
Eckington - - - Derby :		
Henry Inman's Charity - -	84 9 1	Cons.
Elizabeth Hattersley's Charity for Eckington and Ridgway Sunday Schools - - -	308 5 2	Cons.
Edgeworth - - Gloucester :		
Faussett Coal Charity - -	111 17 9	Red.
Egham - - - Surrey :		
Trew Jegon's Charity - -	900 0 0	Cons.
Poor's Allotment Charity -	471 11 6	Cons.
Egleton - - - Rutland :		
Nicholas Towell's Charity -	27 3 4	Cons.
The Poor's Money - -	10 16 4	Cons.
Eglos Merther, St. Michael Penkevil, and Lamorran - - } Cornwall :		
Charity of Right Honourable Ann Frances Countess of Falmouth - - - -	1,666 13 4	Cons.
Eglwysilan and Bedwas { Glamorgan : Monmouth :		
Anne Aldworth's Charity - {	115 17 4	New.
	235 17 5	Cons.
Elland in Halifax - - York :		
Thomas Chamberlain's Charity -	33 12 6	Cons.
Elmbridge. *See* Rushock.		
Elmley - - - York :		
Benjamin Bayley's Charity -	97 16 6	Cons.
Poor and School Estate - -	10 16 1	Cons.
Rev. John Woollin's Charity -	10 16 1	Cons.
Enfield - - Middlesex :		
National Schools - - -	16 16 3	Cons.

Locality or Designation of Charity.	Amount of Stock. £ s. d.	Description.
Epping - - - Essex :		
George Campion's Charity -	533 10 0	Cons.
Epping and Thoydon Garnon - Essex :		
John Baker's Charity - -	2,000 0 0	Cons.
Eskdaleside and Ugglebarnby - York :		
Ann Boyes' Charity (Poor) -	112 0 11	Cons.
Ditto (School) -	224 1 10	Cons.
Eton. *See* Wokingham.		
Eversden (Little) - Cambridge :		
Lydia Leete's Charity - -	300 0 0	Cons.
Exeter (City)		
Lawrence Attwill's Charity - -	224 8 1	Cons.
Episcopal Charity School -	481 11 9	Cons.
Exhall - - - Warwick :		
Poor's Charity - - -	52 11 0	Cons.
Faringdon - - - Devon :		
John Hornbrooke's Charity -	22 6 6	Cons.
Walter Wotton's Charity -	62 18 2	Cons.
Faversham - - - Kent :		
Thomas Napleton's Charity -	163 0 10	Cons.
Feltham - - - Middlesex :		
Almshouse Charity - -	163 8 1	Cons.
Fenby. *See* Ashby.		
Folkestone - - - Kent :		
William Jenkins' Charity -	1,483 11 7	Cons.
Fotheringhay - - Northampton :		
The Charitable Institution -	65 6 0	Cons.
Frome Selwood - - Somerset :		
Susannah Lee's Charity -	108 19 10	Cons.
Fryerning - - - Essex :		
William Gordon Coesvelt's Charity - - -	226 2 7	Cons.
Rev. George Price's Charity -	100 0 0	Cons.
Rosamond Bonham's Charity -	100 0 0	Red.
Robert Sorrell's Charity - -	100 0 0	New.
Georgeham - - - Devon :		
Thomas Chugg's Charity -	446 18 7	New.
Germans (St.) - - Cornwall :		
Nicholas Honey's Charity School	34 14 4	Cons.
Gill. *See* Motherby.		
Glastonbury - - Somerset :		
Royal Hospital or Almshouses -	2,034 14 7	Cons.
Glazeley. *See* Chetton.		
Gloucester - -		
St. Bartholomew's Hospital -	2,754 10 8	Cons.
Gosforth - - - Cumberland :		
Unknown Donor's Charity -	35 11 9	Cons.
Gransden (Great) - - Hunts :		
Rev. Barnabas Oley's Charity -	112 4 0	Cons.
Greystoke. *See* Motherby.		
Greystoke and Little Blencoe - - } Cumberland :		
Ann Troutbeck's Charity -	44 13 5	Cons.
Greystoke - - Cumberland :		
Rev. William Morland's Charity	22 5 11	Cons.
Grimley. *See* Hallow.		
Gwernesney. *See* Usk.		
Hadham (Much) - - Hertford :		
Mary Hale's Charity - -	41 13 4	Cons.

Locality or Designation of Charity.	Amount of Stock. £ s. d.	Description.
Hallow, Grimley, and Madresfield - - } Worcester :		
Ann Bull's Charity - -	44 3 11	Cons.
Hampstead - - Middlesex :		
Henry Waite's Charity -	84 18 6	Cons.
Right Rev. John Robinson, Bishop of London's Charity -	169 17 0	Cons.
Mary Arnold's Charity - -	100 0 0	Cons.
Rosamond Marshall's Charity -	100 0 0	Cons.
Frances Marshall's Charity -	100 0 0	Cons.
Ann Mallory's Charity - -	117 2 7	Cons.
Elizabeth Lady Campden's Charity - - -	74 1 6	Cons.
The Wells' Charity - -	600 8 5	Cons.
Hampton in Arden - - Warwick :		
George Fentham's Charity -	470 16 7	New.
Harting - - - Sussex :		
Feoffee Charity - - -	2,951 9 10	Cons.
Hartley-in-Kirkby Stephen - - } Westmorland :		
Clarke's Charity - -	22 6 6	New.
John Harker's Charity - -	11 2 5	New.
Haughley - - - Suffolk :		
Town Lands - - -	146 2 2	Cons.
Hawarden - - - Flint :		
Edward Bryan's Charity -	104 11 8	Cons.
Hawkhurst - - - Kent :		
Sir Thomas Dunk's Charity -	1,545 9 4	Cons.
Viscount Beresford's Charity -	116 6 0	Cons.
Hay - - - - Brecon :		
Gwynne's Almshouses - - -	100 0 0	New.
Hayes - - - Middlesex :		
Elizabeth Parker's Charity -	40 15 1	Cons.
Hendon - - Middlesex :		
Charities of Elizabeth and Martha Parsons -	210 0 0	Cons.
The Charity School - -	920 0 0	Red.
Hereford - - - (City) :		
Blue Coat Schools - -	4,000 8 3	Cons.
William Price's Hospital -	286 8 10	Cons.
Mary Price's Almshouses -	889 13 2	Cons.
Heskin - - - Lancaster :		
Hannah Anderton's Charity -	341 1 11	Cons.
Heywood-in-Bury - - Lancaster :		
John Starky's Charity - - -	54 9 9	Cons.
John Nuttall's Charity - -	10 16 8	Cons.
Higham Ferrers - Northampton :		
Ann Glassbrook's Charity -	52 10 0	New.
Hinton (Little) - - Wilts :		
Nathaniel Batt's Charity -	336 0 0	New.
Holbeck - - - York :		
The Poor's Land - - -	1,326 18 0	Cons.
Hopton Wafers - - Salop :		
Lucy Botfield's Charity (Schoolmaster) -	381 0 2	Red.
Ditto - - (Poor)	285 0 0	New.
Horton - - - Stafford :		
Fanny Bostock's Charity -	106 10 6	Cons.
Huddersfield - - York :		
Sir John Ramsden's Charity -	2,721 1 9	Cons.
Huntingdon (St. Mary) :		
Charles Veasey's Charity -	54 11 5	Red.
Isleworth - - - Middlesex :		
Mary Kent's Charity - -	67 0 0	Cons.

Locality or Designation of Charity.	Amount of Stock. £ s. d.	Description.
Iver - - - Bucks :		
Anne Seymour's Charity -	167 0 0	Cons.
Henry Seymour's Charity -	200 0 0	Cons.
Margaret Stedman's Gift -	536 13 4	Cons.
Keighley - - - York :		
The Charity called The Grammar School - - -	56 17 3	Cons.
Kendal (Boro) - - Westmorland :		
Maria Wilson's Bequest in Augmentation of Sandy's Charity - - -	1,088 8 9	Cons.
Kibworth Beauchamp and Chapelry of Kibworth Harcourt - - } Leicester :		
Sarah Marriott's Charity -	219 9 7	Red.
Kidderminster - - Worcester :		
Free Grammar School - -	15 18 10	Cons.
Kilham - - - York :		
Elizabeth Knowsley's Charity -	85 1 8	Red.
Kilworth (South) - - Leicester :		
Charity of the Rev. William Pearson, LL.D., for National School - - -	561 16 0	Cons.
Kingsbridge - - Devon :		
William Duncombe's Charity -	2,138 7 9	Cons.
Kingston Lisle. *See* Sparsholt.		
Kingston upon Thames - Surrey :		
Cleave's Almshouse Charity -	1,080 7 0	Cons.
Society of Friends' Charity -	1,122 0 5	Cons.
Kingswear - - - Devon :		
Church Lands - - -	56 11 6	Cons.
Kirk Ireton - - Derby :		
Elizabeth Johnson's Charity -	544 19 2	Cons.
Kirkby. *See* Derby (West).		
Kirkby Lonsdale - Westmoreland :		
Richard Preston's Charity -	173 18 3	Red.
Knossington - - Leicester :		
Knossington Hospital - -	3,121 5 6	Cons.
Lambeth - - - Surrey :		
Archbishop Tenison's Girls School -	1,022 0 6	Cons.
Lamorran. *See* Eglos Merther.		
Langley Marish - - Bucks :		
Anne Seymour's Charity - -	167 0 0	Cons.
Henry Seymour's Charity -	200 0 0	Cons.
Leatherhead - - - Surrey :		
Louisa Maria Dickin's Charity -	1,000 0 0	Cons.
Hudson's Charity for Poor -	100 10 0	Cons.
Ledsham - - - York :		
Rev. Walter Sellon's Charity -	80 8 11	Red.
Ledsham and Ledstone - - York :		
The Charities of Lady Bolles, William Dale, Rev. William Benson, Ruth Proctor, and Ann Shirtliff - -	92 14 9	Red.
Leeds - - - - York :		
John Harrison's Charity for the Minister and Church of St. John the Evangelist -	4,383 1 1	Cons.
Leicester - - - - (Boro'.) :		
Coal Money - - -	45 6 11	Cons.
Lottery Money - -	132 15 7	Cons.
Free Grammar School - -	105 17 8	Cons.
Alderman Gabriel Newton's General Charity - - -	100 0 0	New.

Locality or Designation of Charity.	Amount of Stock. £ s. d.	Description.
Letton. *See* Staunton upon Wye.		
Leyland - - Lancaster:		
Free Grammar School - -	287 11 6	Cons.
Lichfield - - - City:		
Conduit Lands Charity - -	965 8 6	Cons.
Liskeard - - - Cornwall:		
Elizabeth Glencross's Charity -	300 0 0	Cons.
Liverpool - - Lancaster:		
Ann Molyneux's Charity -	2,070 16 11	Cons.
Llandaff - - Glamorgan:		
Iltid Nicholl's Charity - -	174 17 3	Cons.
Llanelly - - Carmarthen:		
David Morris's Charity - -	991 14 8	Cons.
Llangattock juxta Caerleon - - - Monmouth:		
Elizabeth Morgan's Charity -	35 17 9	Cons.
Llangeinor - - Glamorgan:		
Robert Jenkin's Charity -	21 14 4	Cons.
Ann Jenkin's Charity - -	21 14 4	Cons.
Llangeview. *See* Usk.		
Llangoedmore. *See* Bridell.		
Llangollen - - Denbigh:		
John Thos. John Williams' Charity	239 17 9	Cons.
Charities of Evan ap Edwards and Kendrick Wynne - -	812 1 5 1,127 9 0	Cons.
Mary Powell's Charity - -	100 8 4	Cons.
Llangorse. *See* Mara.		
Llangwin. *See* Usk.		
Llanharan - - Glamorgan:		
Mary Lougher's Charity -	16 5 4	Cons.
Llansantffraid Cwm Toyddwr and Nantmel - - Radnor:		
Rev. Charles Price's Charity -	428 3 0	Cons.
Llanwrst - - - Denbigh:		
Consolidated Charities for Poor -	500 0 0	New.
London:		
„ (Allhallows Barking):		
John Rand's Gift -	2,538 15 9	Cons.
„ (St. Pancras):		
Church Lands Charity -	3,413 18 11	Cons.
„ (St. Benet, Paul's Wharf):		
Trew Jegon's Charity -	900 0 0	Cons.
„ (St. George in the East):		
William Games' Charity, for Middlesex Society's National School - -	15 2 11	New.
„ (St. Sepulchre):		
Richard Reeve's Charity -	19 3 4	Cons.
Longworth - - - Berks:		
Dewe's Charity - - -	108 7 0	Cons.
John Carter's Charity - -	200 0 0	New.
Ludlow - - - Salop:		
Charities known as the Grammar School, Hosyer's Almshouses, the Preacher of the Town of Ludlow, and the Assistant to Rector of said Town - -	11,877 1 11	Cons.
James Walter's Charity - -	321 11 9	Cons.
Mabyn (St.) - - Cornwall:		
William Mayn's Charity - -	101 5 4	Cons.
Macclesfield - - - Chester:		
Mary Ann Wych's Charity for Repairs of St. Michael's Church	438 19 2	Cons.
Do. - for Poor -	219 9 7	Cons.
Madeley - - - Salop:		
Brooke's and Beddoe's Charities -	740 4 4	Cons.
Martin Baldwin's Charity -	150 0 0	Cons.
Madresfield. *See* Hallow.		
Maidstone - - - Kent:		
Alexander Fisher's Charity -	2,023 3 7	Cons.
Edward Hunter's Charity -	5,000 0 0	Cons.
Maker - Devon and Cornwall:		
Poor's Charities - -	225 0 8	Cons.
Mancetter - - Warwick:		
William Simmond's Charity -	282 17 4 161 0 6	Cons. New.
Mara or Llangorse - Brecknock		
Robert Skinner's Charity -	33 6 8	Cons.
Marchwiel - - - Denbigh:		
Thomas David Ellis's Charity -	4,718 4 4	Cons.
Margate (Drapers in St. John Baptist) - - - Kent:		
Mrs. Mary Belsey's Gift to Michael Yoakley's Almshouses -	315 0 0	Red.
Market Harborough - Leicester:		
Thomas Ratten's Charity -	264 9 10	New.
Mary Lett's Charity - -	105 0 0	New.
Thomas Dawson's Charity -	154 4 4	New.
Marlow (Little) - Buckingham:		
Margaret Birch's Charity -	113 6 4	New.
Melton Mowbray - Leicester:		
John Day's Charity - -	105 16 5	Cons.
John Bourn's Charity - -	299 5 0	New.
Lady Elizabeth Norman's Charity	109 8 9	Cons.
Meon (East) - - Southampton:		
The Forbes' Almshouses -	3,000 0 0 300 0 0	Cons. New.
Meopham - - - Kent:		
The Clay Cottages - -	216 13 4	Cons.
Merton - - - Surrey:		
Mary Batt's Gift - -	250 0 0	Cons.
Admiral Isaac Smith's Charity -	630 0 0	Red.
Richard Dallett's Charity - -	210 0 0	New.
The Poor's Wood Charity -	72 0 0	Cons.
Elizabeth Simon's Charity -	600 0 0	Cons.
Mirfield - - - York:		
Robert Holdsworth's Charity -	167 0 0	Cons.
Mitcham - - - Surrey:		
Sunday School Fund - -	1,702 16 4	Cons.
Monken Hadleigh - Middlesex:		
Sir Roger and Lady Wilbraham's Almshouses - - -	3,050 0 0	Cons.
Morley - - - Derby:		
School Charity - - -	367 3 11	Cons.
Morley. *See* Smalley.		
Morpeth - - Northumberland:		
Presbyterian Chapel Charity -	194 10 11	Cons.
Motherby Gill and Greystoke - - Cumberland:		Cons.
Thomas Thompson's Charity -	22 5 11	
Mothvey. *See* Myddfar.		
Myddfar otherwise Mothvey - - Carmarthen:		Cons.
John Josiah Holford's Charity -	200 0 0	
Nantmel. *See* Llansantffraid.		
Narborough - - Leicester:		
Church Piece Charity - -	27 0 0	Cons.
Neath - - Glamorgan:		
William Cross's Charities -	21 14 11	Cons.

Locality or Designation of Charity.	Amount of Stock. £ s. d.	Description.
Neithrop. *See* Banbury.		
Neot's (Saint) - Huntingdon: John Dryden's Charity - -	128 7 6	Cons.
Netherbury - - - Dorset: Mary Packer's Charity - -	198 12 5	Red.
Nether Stowey - - Somerset: Frances Poole's Charity - -	109 8 9	Cons.
Newnham - - Northampton: Sarah Ann Oliver's Charity -	52 4 5	Cons.
Nolton - - - Pembroke: John Grant's Charity - -	549 1 11	New.
Northampton (Boro'): St. Thomas's Hospital - -	107 17 7	Cons.
Northen Etchells - - Chester: Mary Baxter's Charity - -	98 7 2	Cons.
Northfield - - Worcester: School Fund of Foundation of the Rev. Dr. William Worth, Thomas Lockey Soley, and Thomas Loyd - -	433 6 8	Cons.
Northiam - - - Sussex: Thomas Roote's Bequest to National School - -	90 15 9	Cons.
Norwich (City): Boys' Hospital - -	6,666 13 4	Cons.
Great Hospital - - -	13,194 17 5	Cons.
„ (St. George Colegate): Sarah Elden's Charity - -	1,848 0 0	New.
„ (St. John de Sepulchre): Mary Ann Yallop's Charity -	381 17 9	Cons.
Thomas Clabburn's Charity -	173 7 10	New.
Ockley - - - Surrey: Elizabeth Eversted's or Evershed's Charity - - -	1,000 0 0	Cons.
Oddington - - Gloucester: Hervey's Charity - -	124 13 0	Red.
Oldham and Royton - Lancaster: Poor's Field Charity - -	33 10 7	Cons.
Oldland in Bitton - Gloucester: Ann Pring's Charity - -	100 0 0	Cons.
Old Swinford. *See* Swinford.		
Ottery St. Mary - - Devon: William Woodrow's Charity -	121 4 3	Cons.
Overton - - - Hants: John Jagoe's Charity (Clothing)	600 0 0	Cons.
Ditto (National School) -	400 0 0	Red.
Oxford (St. Thomas): Martha Harris's Charities -	221 18 3	Cons.
Pancras, St. *See* London.		
Pangbourne - - Berks: William Downing's Charity -	166 10 0	New.
Dr. John Symonds Breedon's Charity - - -	178 11 8	Cons.
Pendleton - - Lancaster: James Short's Charity - -	362 14 5	New.
Penkevil (St. Michael) - Cornwall: Charity of Right Hon. Anne Frances Countess of Falmouth for Schoolmistresses - -	666 13 4	Cons.
Penkevil (St. Michael). *See* Eglos Merther.		

Locality or Designation of Charity.	Amount of Stock. £ s. d.	Description.
Peterchurch and Clifford - Hereford: John Smith's Charity - -	4,928 8 8	Cons.
Pickhill - - - York: Sarah Eadcn's Charity - -	110 16 0	Cons.
Pinner - - Middlesex: Mary Roberts' Charity (Poor) -	152 7 8	Cons.
	200 0 0	Red.
Ditto (Incumbent) -	548 16 9	Cons.
Pishill - - - Oxford: Henry Kebble's Charity -	8 12 7	Cons.
Plumstead - - - Kent: Edward Smith's Charity - -	67 0 0	Cons.
Plymouth - - - Devon: Hospital of Orphans' Aid -	656 5 1	Cons.
Puriton - - - Somerset: Robert Skinner's Charity -	66 13 4	Cons.
Queenborough (Boro') in Isle of Sheppy - - } Kent: Charities of Joseph Shield, George Evan Baker, and Shipwrecked Gentlemen - - -	2 0 10	Cons.
Quethiock - - Cornwall: Walter Coryton's Charity -	121 1 0	Red.
Quinton - - Gloucester: Maria Parker's Charity - -	260 12 7	Red.
Michael Corbett's Charity -	111 11 6	Cons.
Charity of Cornelius Harris and Unknown Donor - -	111 11 6	Cons.
Henny's Charity - -	55 15 9	Cons.
Rainford in Prescot - Lancaster: John Marsh's Charity for Support of a Protestant Dissenting Minister - - -	3,156 3 4	Cons.
Rashdale's (Joanna) Charity for Blind	1,000 0 0	Red.
Reading - - - Berks: Scholarship Fund at the Grammar School - - -	775 0 0	Cons.
„ (St. Giles, St. Mary, and St. Lawrence): Mary Kendrick's Charity -	123 4 8	Cons.
Rich's (Dame Elizabeth) Charities -	2,867 0 0	Cons.
Roch - - - Pembroke: John Grant's Charity - -	549 1 11	New.
Rockliff - - Cumberland: Hannah Usher's Charity - -	21 19 8	Cons.
Runcorn - - - Chester: Alcock's Charity - -	12 0 0	Cons.
Rushock and Elmbridge - Worcester: Cutnall Green School - -	119 10 0	Cons.
Ruthin - - - Denbigh: Edward Lloyd's Charity - -	194 6 6	Cons.
Saint. *See* next word.		
Salcombe - - - Devon: Rachel Frances Robertson's Charity - - -	112 4 0	Cons.
Salisbury, St. Edmund - Wilts: Rev. Edward Frowd's Bequest in augmentation of Edward Frowd's Charity - -	301 10 2	N. 2½
Saltford - - - Somerset: Admiral Benedictus Marwood Kelly's Gift for the Parish or National Schools - -	100 0 0	Cons.
Sandbach - - - Chester: Sandbach Charities - -	1,616 5 11	Cons.

Locality or Designation of Charity.	Amount of Stock. £ s. d.	Description.
Shaftesbury - - Dorset: Charity of George Wilkins in aid of Chubb's Almshouse Charity	899 1 7	New.
Shapwick - - - Somerset: James Alexander's Charity -	333 6 8	Cons.
Shebbear - - - Devon: Miss Harrington's Charity -	175 3 8	New.
Sheffield - - - York: Boys' Charity School - -	4,148 3 0	Cons.
William Carr's Bequest to General Infirmary - - -	490 9 3	Cons.
Church Burgesses Trust - -	434 9 8	Cons.
John Kirkby's Charity - -	750 0 0	Cons.
Shepton Mallet - - Somerset: The Cross Charity - -	117 12 3	Cons.
Sherborne - - - Dorset: Incorporated Charity of the Almshouse of St. John Baptist and St. John the Evangelist -	223 15 6	Cons.
Shere - - - Surrey: Thomas Gatton's Charity - -	457 0 0	Cons.
Shipton Moyne - - Gloucester: Elizabeth Nowell's Charity -	200 0 0	Red.
Shobden - - - Hereford: Poor's Land Charity - -	392 11 3	Cons.
Shrewsbury (St. Julian) - Salop: Caroline Smytheman's Charity -	150 16 10	Cons.
Skelton in Langbaurgh - York: Church Lands - -	1,709 10 9	Cons.
Skipwith - - - York: Rev. Joseph Nelson's Charity -	451 2 8	Cons.
Sleaford (New) and Balderton - Lincoln, Nottingham: William Alvey's Charity - -	443 16 7	Cons.
Smalley and Morley - Derby: The School Charity - -	228 13 3	Cons.
Solihull - - - Warwick: Rev. William Wilson's Charity -	78 2 5	Cons.
Southwark - - - Surrey: St. Thomas' Hospital - -	448 10 7	Cons.
Sparsholt - - - Hants: Gifts of Richard Bricknell, Mr. Sims, and Mr. Wade - -	16 15 5	Cons.
Sparsholt with Kingston Lisle - Berks: Rev. Allison Dodd's Charity -	220 1 8	Cons.
Spetisbury and Charlton Marshall - Dorset: Charity of Bishop Hall and	1,678 9 6	Cons.
Dr. Sloper - - - -	1,331 19 0	Cons.
Staunton - - - Gloucester: Reverend James Hammond's Charity - - - -	100 0 0	Red.
Staunton-upon-Wye, Bredwardine and Letton - Hereford: George Jarvis' Charity - -	76,015 13 11	Cons.
Stibbington - - Huntingdon: Poor's Fund - - - -	310 19 7	Cons.
Stourbridge. *See* Swinford.		
Stroud - - - Gloucester: Henry Wyndowe's Charity -	322 7 10	Cons.
Sundridge - - - Kent: John Hyde's Charity - -	200 0 0	Cons.
Sutton Coldfield - - Warwick: Grammar School - - - -	52 8 4	Cons.
Sutton St. George in Macclesfield - - - Chester: Thomas Bullock's Charity -	108 19 10	Cons.
Swinderby - - - Lincoln: Thomas Wilson's Charity - -	55 9 5	Cons.
Swindon in Wombourne - Stafford: Repair Fund for Chapel of Ease	96 17 3	Cons.
Swinford (Old) and Stourbridge - - Worcester: John Wheeler's Charity - -	1,372 19 7	Cons.
Talgarth - - - Brecknock: Robert Skinner's Charity -	66 13 4	Cons.
Tanfield (West) - - York: Charities of John Moore and Charles Francis - -	37 7 11	Cons.
Tatterford and Tattersett - Norfolk: Dame Dianna Drury's Charity -	113 6 3	Cons.
Teversall - - Nottingham: Charity of Sir Charles Molyneux, Bart. - - -	56 5 1	New.
Thatcham - - - Berks: Lady Frances Winchcombe's Charity - - -	5,922 5 5	Red.
Thornhaugh-with-Wansford - Northampton: Rev. Thomas Woolsey's Charity -	44 13 5	Cons.
Poor's Charity - - - -	22 5 10	Cons.
Thoydon Garnon. *See* Epping.		
Totteridge - - Hertford: Charities of William Manning, The Waste Lands, The Volunteer, Sir Alexander Maitland, and Louisa Arrowsmith -	366 2 0	Cons.
Truss' Charities (Alexander) -	3,621 17 8	Cons.
	1,350 0 0	Red.
Tunstall - - Lancaster: Tunstall School - - - -	12 18 0	New.
Ucha. *See* Usk.		
Ugglebarnby. *See* Eskdaleside.		
Usk, Llangwin, Ucha, Llangeview, and Gwernesney - Monmouth and elsewhere: Almshouse Branch of Charity founded by Roger Edwards -	282 13 4	Cons.
Uttoxeter - - Stafford: Elizabeth Johnson's Charity -	200 0 0	Cons.
Waberthwaite - - Cumberland: Rev. Parke's Charity -	62 8 3	Cons.
Wakefield - - - York: Hospital Charity of Caleb Crowther, Esq., M.D. - -	175 0 8	Cons.
Wallington - - Hertford: Charity of an unknown Donor -	32 18 7	Cons.
John Browne's Charity - -	131 17 4	Cons.
Joseph Edmonds Charity -	5 8 5	Cons.
Walsingham (Little) - Norfolk: Bond's Free School - -	22 10 2	Cons.
Walton-on-the-Hill. *See* Derby (West).		
Wansford. *See* Thornhaugh.		
Wardington - - Oxford: George Watson's Charity -	615 16 1	Cons.

Locality or Designation of Charity.	Amount of Stock. £ s. d.	Description.
Warfield - - - Berks :		
Fuel Charity - - -	2,255 3 4	Cons.
Wargrave - - - Berks:		
Anne Pigott's Charity - -	134 0 0	Red.
Wath-upon-Dearne - - York:		
Wm. Carr's Bequest to Sick or Benefit Club - -	98 1 10	Cons.
Wm. Carr's Bequest for Organist and Singers - - -	1,534 0 0	Cons.
Wednesbury - - - Stafford :		
Joseph Hopkins' Charity - -	272 2 2	Cons.
Wellingborough - Northampton:		
Church Land Charity - -	249 17 1	Cons.
Ann Glassbrook's Charity -	420 0 0	New.
Thomas Sheppard's Charity -	22 2 2	New.
Wellington - - - Salop:		
William Warham's Charity for Charity School - -	147 2 10	Cons.
Stephen Panting's Charity do. -	49 0 7	Cons.
Wells (City) :		
Harper's Almshouses - -	438 19 2	Cons.
Wenlock (Much) - - Salop:		
Andrew Dodd's Charity - -	149 3 1	Red.
Rev. Francis Southern's Charity -	640 2 3	Cons.
Poor's Stock - - -	240 19 3	Cons.
Richard Patten's Charity -	109 17 10	Cons.
Edward Hughes Charity -	98 18 0	Cons.
Westbury - - - Salop:		
Rev. Thomas Parr's Charity (Charity Schools) - -	325 12 10	Cons.
Do. (Poor) - -	217 1 9	Cons.
Richard Hilhouse's Charity -	109 17 10	
Westerdale - - - York :		
Free School - - -	106 7 5	Cons.
Westerham - - Kent :		
Rev. Marmaduke Lewis's Charity	157 10 0	New.
Hughes Minet's Charity -	62 10 0	Cons.
Charles West's Charity - -	75 0 0	Red.
William Stratton's Charities -	41 15 7	Cons.
Thomas Hardy's Charity - -	75 0 0	Red.
Ralph Manning's Charity -	75 0 0	Cons.
Westminster - - - City :		
Grey Coat Hospital in Tothill Fields of the Royal Foundation of Queen Anne - -	2,942 15 7	Cons.
Wheelwright's Charities - -	5,130 12 0	Cons.
Whelnethan (Great) - Suffolk :		
Mary Ann Cooke's Charity -	45 3 0	Cons.
Wimbledon - - Surrey :		
Daniel Mason's Charity - -	300 0 0	New.
Winchester (St. Thomas) - Southampton:		
Elizabeth Imber's Charity -	800 0 0	Cons.
„ (St. Michael's):		
Dr. Roger Shipman's Charity -	110 14 5	Cons.
Mrs. Elizabeth Eyre's Charity -	361 11 0	Red.
Bishop Morley's College - -	274 11 6	New.
	21,653 9 1	Cons.
Dr. Hoadley's Charity - -	619 17 0	Cons
Magdalen Hospital - -	13 16 10	Cons.
Windle - - Lancaster:		
Taylor's Charity - -	661 3 2	Cons.

Locality or Designation of Charity.	Amount of Stock. £ s. d.	Description.
Windsor (New) - - Berks :		
James Panton's Charity - -	52 10 0	New.
Mary Field's Charity - -	210 0 0	New.
Winkfield - - - Berks :		
Admiral Sir Charles Rowley's Charity - - - -	70 0 0	New.
Mrs. Ballard's Charity - -	45 0 0	Cons.
Vicar Pople's Charity - -	100 0 0	Cons.
Winkleigh - - - Devon :		
Robert Skinner s Charity -	66 13 4	Cons.
Winslow - - - Bucks :		
William Packer's Charity -	100 0 0	Red.
Wirksworth - - - Derby :		
Elizabeth Greaves Charity -	1,094 7 10	Cons.
Winterbourne - - Gloucester :		
Sarah Bevan's Charity - -	320 17 1	Cons.
Witheridge - - Devon :		
Richard Melhuish's School Charity	700 0 0	Cons.
John Partridge's Charity -	126 10 8	Cons.
Witton (West) - - York :		
Charles Robinson's Charity -	396 16 2	Cons
Wokingham - - Berks :		
William Nash's Charity - -	200 0 0	New.
Richard Crutwell's Charity -	100 0 0	Red.
Thomas Martin's Charity - -	40 0 0	Cons.
Martha Palmer's Charity - -	100 0 0	Cons.
Elizabeth Parker's Charity -	15 0 0	Cons.
Rev. John Westende's Charity -	138 10 1	Cons.
Charles Palmer's Charity (School)	667 0 0	Cons.
Ditto (Minister)	333 10 0	Cons.
Wokingham and Eton - Berks and Bucks:		
John Bateman's Charity - -	549 9 0	Cons.
Woodside Quarter. *See* Derby (West).		
Woolavington -		
Robert Skinner's Charity -	66 13 4	Cons.
Woolhampton - - Berks :		
Charity of Right Honourable Anne Frances Countess of Falmouth for Poor - -	500 0 0	Cons.
Ditto for Schoolmistress of Parish School - -	666 13 4	Cons.
Wootton, near Gloucester :		
United Hospital of St. Margaret and St. Mary Magdalen -	5,350 18 6	Cons.
Worthington in Breedon - Leicester :		
Grace Bulstrode's Charity (Poor)	296 5 11	Cons.
Ditto (Church Schools)	790 2 5	Cons.
Ditto (Clothing Club)	493 16 6	Cons.
Wrawby - - - Lincoln :		
Helen Tripp's Charity - -	100 6 8	Cons.
Wrockwardine - - Salop :		
Clothing Charity - -	141 7 4	Red.
Sir William Sarsfield Cockburn's Charity - - -	93 0 6	Red.
Cludde's Almshouses - -	11 1 7	Cons.
York (City) :		
William Carr's Bequest to Yorkshire School or Institution for Blind - - -	490 9 3	Cons.
„ (St. Margaret) :		
Robert Winterscale's Charity	164 10 3	Cons.

LONDON:
Printed by George E. Eyre and William Spottiswoode,
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For Her Majesty's Stationery Office.

REPORT

OF

HER MAJESTY'S COMMISSIONERS

APPOINTED TO CONSIDER THE

SUBSCRIPTIONS, DECLARATIONS, AND OATHS REQUIRED TO BE MADE AND TAKEN

BY THE

CLERGY OF THE UNITED CHURCH OF ENGLAND AND IRELAND.

WITH APPENDIX.

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
PRINTED BY GEORGE EDWARD EYRE AND WILLIAM SPOTTISWOODE,
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FOR HER MAJESTY'S STATIONERY OFFICE.

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ORIGINAL COMMISSION.

Victoria, by the Grace of God of the United Kingdom of Great Britain and Ireland, Queen, Defender of the Faith.

To the Most Reverend Father in God Our right trusty and right entirely beloved Councillor, Charles Thomas Archbishop of Canterbury; the Most Reverend Father in God Our right trusty and right entirely beloved Councillor, William Archbishop of York; the Most Reverend Father in God Our right trusty and right entirely beloved Councillor, Marcus Gervais Archbishop of Armagh; the Most Reverend Father in God Our right trusty and right entirely beloved Councillor, Richard Chenevix Archbishop of Dublin; Our right trusty and right well-beloved Cousin Philip Henry Earl Stanhope; Our right trusty and right well-beloved Cousin and Councillor Dudley Earl of Harrowby, Knight of Our most Noble Order of the Garter; the Right Reverend Father in God Our right trusty and well-beloved Councillor, Archibald Campbell Bishop of London; the Right Reverend Father in God Charles Richard Bishop of Winchester; the Right Reverend Father in God Connop Bishop of St. David's; the Right Reverend Father in God Samuel Bishop of Oxford; Our right trusty and well-beloved George William Baron Lyttelton; Our right trusty and well-beloved Councillor Robert Monsey Baron Cranworth; Our right trusty and well-beloved Councillor Robert Baron Ebury; Our right trusty and well-beloved Councillor Edward Pleydell Bouverie; Our right trusty and well-beloved Councillor Stephen Lushington, Doctor of Civil Law, Judge of Our High Court of Admiralty; Our right trusty and well-beloved Councillor Spencer Horatio Walpole; Our right trusty and well-beloved Councillor Joseph Napier; Our right trusty and well-beloved Councillor Sir John Taylor Coleridge, Knight; Our trusty and well-beloved Sir William Heathcote, Baronet; Our trusty and well-beloved Charles Buxton, Esquire; Our trusty and well-beloved Henry Hart Milman, Doctor in Divinity, Dean of Our Cathedral Church of St. Paul in London; Our trusty and well-beloved Harvey Goodwin, Doctor in Divinity, Dean of Our Cathedral Church of Ely; Our trusty and well-beloved John Sandford, Clerk, Bachelor in Divinity, Archdeacon of Coventry; Our trusty and well-beloved William Jacobson, Doctor in Divinity, Regius Professor of Divinity in Our University of Oxford; Our trusty and well-beloved James Amiraux Jeremie, Doctor in Divinity, Regius Professor of Divinity in Our University of Cambridge; Our trusty and well-beloved Henry Venn, Clerk, Bachelor in Divinity; and Our trusty and well-beloved William Gilson Humphry, Clerk, Bachelor in Divinity, greeting:

Whereas We have deemed it expedient that a Commission should issue to consider and revise the various Forms of Subscription and Declaration required to be made by the Clergy of the United Church of England and Ireland on Ordination, or on Appointment, Admission, or Induction to any Ecclesiastical Dignity, Benefice, Curacy, Lectureship, or Office, and to report their Opinion how far they may be altered and simplified consistently with due Security for the declared Agreement of the Clergy with the Doctrines of the Church and their Conformity to its Ritual.

Now know ye, that We, reposing great Trust and Confidence in your Zeal, Ability, and Discretion, have authorized and appointed and do by these Presents authorize and appoint you the said Charles Thomas Archbishop of Canterbury, William Archbishop of York, Marcus Gervais Archbishop of Armagh, Richard Chenevix Archbishop of Dublin, Philip Henry Earl Stanhope, Dudley Earl of Harrowby, Archibald

Campbell Bishop of London, Charles Richard Bishop of Winchester, Connop Bishop of St. David's, Samuel Bishop of Oxford, George William Baron Lyttelton, Robert Monsey Baron Cranworth, Robert Baron Ebury, Edward Pleydell Bouverie, Stephen Lushington, Spencer Horatio Walpole, Joseph Napier, Sir John Taylor Coleridge, Sir William Heathcote, Charles Buxton, Henry Hart Milman, Harvey Goodwin, John Sandford, William Jacobson, James Amiraux Jeremie, Henry Venn, and William Gilson Humphry, or any Nine or more of you, to be our Commissioners to consider and revise the various Forms of Subscription and Declaration required to be made by the Clergy of the United Church of England and Ireland on Ordination, or on Appointment, Admission, or Induction to any Ecclesiastical Dignity, Benefice, Curacy, Lectureship, or Office, and to report your Opinion how far they may be altered and simplified consistently with due Security for the declared Agreement of the Clergy with the Doctrines of the Church and their Conformity to its Ritual.

And for the better enabling you to fulfil the Objects of this Our Commission, We do by these Presents give and grant to you, or any Nine or more of you, full Power and Authority to call before you, or any Nine or more of you, such Persons as you shall judge necessary, by whom you may be the better informed on the Subjects herein submitted for your Consideration, and every Matter connected therewith; and also to call for, have access to, and examine all such Official Books, Documents, Papers, and Records as may afford the fullest Information on the Subject, and to inquire of and concerning the Premises by all other lawful Ways and Means whatsoever.

And Our further Will and Pleasure is that you, or any Eleven or more of you, do with all convenient Speed report to Us under your Hands and Seals, or under the Hands and Seals of any Eleven or more of you, your Opinion upon the several Points herein submitted for your Consideration.

And We do further will and command, and by these Presents ordain, that this Our Commission shall continue in full Force and Virtue, and that you Our said Commissioners, or any Nine or more of you, shall and may from Time to Time proceed in the Execution thereof, and of every Matter and Thing therein contained, although the same be not continued from Time to Time by Adjournment; and We do hereby command all and singular Our Justices of the Peace, Sheriffs, Mayors, Bailiffs, Constables, Officers, Ministers, and all other Our loving Subjects whatsoever, that they be assistant to you and each of you in the Execution of these Presents.

And for your further Assistance in the due Execution of this Our Commission, We have made choice of Our trusty and well-beloved Thomas Fassett Kent, Esquire, Barrister at Law, to be Secretary to this Our Commission, and to attend you, whose Services and Assistance We require you to use from Time to Time as Occasion may require.

In witness whereof We have caused these Our Letters to be made Patent. Witness Ourself at Westminster, the Eighth Day of February, in the Twenty-seventh Year of Our Reign.

By Warrant under the Queen's Sign Manual.

(Signed) C. ROMILLY.

SUPPLEMENTAL COMMISSION.

Victoria, by the Grace of God of the United Kingdom of Great Britain and Ireland, Queen, Defender of the Faith.

To the Most Reverend Father in God Our right trusty and right entirely beloved Councillor, Charles Thomas Archbishop of Canterbury; the Most Reverend Father in God Our right trusty and right entirely beloved Councillor, William Archbishop of York; the Most Reverend Father in God Our right trusty and right entirely beloved Councillor, Marcus Gervais Archbishop of Armagh; the Most Reverend Father in God Our right trusty and right entirely beloved Councillor, Richard Chenevix Archbishop of Dublin; Our right trusty and right well-beloved Cousin Philip Henry Earl Stanhope; Our right trusty and right well-beloved Cousin and Councillor Dudley Earl of Harrowby, Knight of Our most Noble Order of the Garter; the Right Reverend Father in God Our right trusty and well-beloved Councillor, Archibald Campbell Bishop of London; the Right Reverend Father in God Charles Richard Bishop of Winchester; the Right Reverend Father in God Connop Bishop of St. David's; the Right Reverend Father in God Samuel Bishop of Oxford; Our right trusty and well-beloved George William Baron Lyttelton; Our right trusty and well-beloved Councillor Robert Monsey Baron Cranworth; Our right trusty and well-beloved Councillor Robert Baron Ebury; Our right trusty and well-beloved Councillor Edward Pleydell Bouverie; Our right trusty and well-beloved Councillor Stephen Lushington, Doctor of Civil Law, Judge of Our High Court of Admiralty; Our right trusty and well-beloved Councillor Spencer Horatio Walpole; Our right trusty and well-beloved Councillor Joseph Napier; Our right trusty and well-beloved Councillor Sir John Taylor Coleridge, Knight; Our trusty and well-beloved Sir William Heathcote, Baronet; Our trusty and well-beloved Charles Buxton, Esquire; Our trusty and well-beloved Henry Hart Milman, Doctor in Divinity, Dean of Our Cathedral Church of St. Paul in London; Our trusty and well-beloved Harvey Goodwin, Doctor in Divinity, Dean of Our Cathedral Church of Ely; Our trusty and well-beloved John Sandford, Clerk, Bachelor in Divinity, Archdeacon of Coventry; Our trusty and well-beloved William Jacobson, Doctor in Divinity, Regius Professor of Divinity in Our University of Oxford; Our trusty and well-beloved James Amiraux Jeremie, Doctor in Divinity, Regius Professor of Divinity in Our University of Cambridge; Our trusty and well-beloved Henry Venn, Clerk, Bachelor in Divinity; and Our trusty and well-beloved William Gilson Humphry, Clerk, Bachelor in Divinity, greeting:

Whereas We did by Our Letters Patent under the Great Seal of Our United Kingdom of Great Britain and Ireland, bearing Date at Westminster, the Eighth Day of February, in the Twenty-seventh Year of Our Reign, authorize and appoint you the said Charles Thomas Archbishop of Canterbury, William Archbishop of York, Marcus Gervais Archbishop of Armagh, Richard Chenevix Archbishop of Dublin, Philip Henry Earl Stanhope, Dudley Earl of Harrowby, Archibald Campbell Bishop of London, Charles Richard Bishop of Winchester, Connop Bishop of St. David's, Samuel Bishop of Oxford, George William Baron Lyttelton, Robert Monsey Baron Cranworth, Robert Baron Ebury, Edward Pleydell Bouverie, Stephen Lushington, Spencer Horatio Walpole, Joseph Napier, Sir John Taylor Coleridge, Sir William Heathcote, Charles Buxton, Henry Hart Milman, Harvey Goodwin, John Sandford, William Jacobson, James Amiraux Jeremie, Henry Venn, and William Gilson Humphry, or any Nine or more of you, to be Our Commissioners to consider and revise the various Forms of Subscription

and Declaration required to be made by the Clergy of the United Church of England and Ireland on Ordination, or on Appointment, Admission, or Induction to any Ecclesiastical Dignity, Benefice, Curacy, Lectureship, or Office, and to report your Opinion how far they may be altered and simplified consistently with due Security for the declared Agreement of the Clergy with the Doctrines of the Church and their Conformity to its Ritual.

And for the better enabling you to fulfil the Objects of that Our Commission, We did thereby give and grant to you, or any Nine or more of you, full Power and Authority to call before you, or any Nine or more of you, such Persons as you should judge necessary, by whom you might be the better informed on the Subjects therein submitted to your Consideration, and every Matter connected therewith; and also to call for, have access to, and examine all such Official Books, Documents, Papers, and Records as might afford the fullest Information on the Subject, and to inquire of and concerning the Premises by all other lawful Ways and Means whatsoever.

And Our further Will and Pleasure was, that you, or any Eleven or more of you, should with all convenient Speed report to Us under your Hands and Seals, or under the Hands and Seals of any Eleven or more of you, your Opinion upon the several Points therein submitted for your Consideration.

And We did further will and command, and thereby ordain, that Our said Commission should continue in full Force and Virtue, and that you Our said Commissioners, or any Nine or more of you, should and might from Time to Time proceed in the Execution thereof, and of every Matter and Thing therein contained, although the same be not continued from Time to Time by Adjournment, as by the said Letters Patent, reference being thereunto had, will more fully and at large appear.

And whereas We have deemed it expedient that, in addition to the various Matters specified in Our said Commission, you Our said Commissioners should also consider the various Oaths required to be taken by the Clergy of the United Church of England and Ireland on Ordination, or on Appointment, Admission, or Induction to any Ecclesiastical Dignity, Benefice, Curacy, Lectureship, or Office, and should report your Opinion as to the Expediency of altering or dispensing with the said Oaths, or any of them, for the future.

Now therefore know ye, that We, reposing great Trust and Confidence in your Zeal, Ability, and Discretion, have authorized and appointed, and by these Presents do authorize and appoint you, the said Charles Thomas Archbishop of Canterbury, William Archbishop of York, Marcus Gervais Archbishop of Armagh, Richard Chenevix Archbishop of Dublin, Philip Henry Earl Stanhope, Dudley Earl of Harrowby, Archibald Campbell Bishop of London, Charles Richard Bishop of Winchester, Connop Bishop of St. David's, Samuel Bishop of Oxford, George William Baron Lyttelton, Robert Monsey Baron Cranworth, Robert Baron Ebury, Edward Pleydell Bouverie, Stephen Lushington, Spencer Horatio Walpole, Joseph Napier, Sir John Taylor Coleridge, Sir William Heathcote, Charles Buxton, Henry Hart Milman, Harvey Goodwin, John Sandford, William Jacobson, James Amiraux Jeremie, Henry Venn, and William Gilson Humphry, or any Nine or more of you, to be Our Commissioners to consider the various Oaths required to be taken by the Clergy of the United Church of England and Ireland on Ordination, or on Appointment, Admission, or Induction to any Ecclesiastical Dignity, Benefice, Curacy, Lectureship, or Office, and to report your Opinion as to the Expediency of altering or dispensing with the said Oaths, or any of them, for the future.

And for the better enabling you to fulfil the Objects of this Our Commission, We do by these Presents give and grant to you, or any Nine or more of you, full Power and

Authority to call before you, or any Nine or more of you, such Persons as you shall judge necessary, by whom you may be the better informed on the Subjects herein, and in Our said recited Commission, submitted for your Consideration, and every Matter connected therewith; and also to call for, have access to, and examine all such Official Books, Documents, Papers, and Records as may afford the fullest Information on the Subjects, and to inquire of and concerning the Premises by all other lawful Ways and Means whatsoever.

And Our further Will and Pleasure is, that you, or any Eleven or more of you, do with all convenient Speed report to Us under your Hands and Seals, or the Hands and Seals of any Eleven or more of you, your Opinion upon the several Points herein, and in Our said recited Commission, submitted for your Consideration.

And We do further will and command, and by these Presents ordain, that this Our Commission shall continue in full Force and Virtue, and that you Our said Commissioners, or any Nine or more of you, shall and may from Time to Time proceed in the Execution thereof, and of every Matter and Thing therein contained, although the same be not continued from Time to Time by Adjournment.

And We do hereby command all and singular Our Justices of the Peace, Sheriffs, Mayors, Bailiffs, Constables, Officers, Ministers, and all other Our loving Subjects whatsoever, that they be assistant to you and each of you in the Execution of these Presents.

And for your further Assistance in the due Execution of this Our Commission, We have confirmed the Choice of Our trusty and well-beloved Thomas Fassett Kent, Esquire, Barrister at Law, to be Secretary to this Our Commission, and to attend you, whose Services and Assistance We require you to use from Time to Time as Occasion may require.

In witness whereof We have caused these Our Letters to be made Patent. Witness Ourself at Westminster, the Thirteenth Day of May, in the Twenty seventh year of Our Reign.

By Warrant under the Queen's Sign Manual.

(Signed) C. ROMILLY

REPORT.

TO THE QUEEN'S MOST EXCELLENT MAJESTY.

I. Your Majesty having been pleased to issue Commissions authorizing and appointing us to "consider and revise the various Forms of Subscription and Declaration required "to be made by the Clergy of the United Church of England and Ireland on Ordination, "or on Appointment, Admission, or Induction to any Ecclesiastical Dignity, Benefice, "Curacy, Lectureship, or Office, and to report our Opinion how far they may be altered "and simplified consistently with due Security for the declared Agreement of the Clergy "with the Doctrines of the Church, and their Conformity to its Ritual;" and also "to "consider the various Oaths required to be taken by the Clergy of the United Church "of England and Ireland on Ordination, or on Appointment, Admission, or Induction "to any Ecclesiastical Dignity, Benefice, Curacy, Lectureship, or Office, and to report "our Opinion as to the Expediency of altering or dispensing with the said Oaths, or "any of them, for the future;" We, Your Majesty's Commissioners, in execution of the duties thus entrusted to us, have considered the existing forms of Subscription and Declaration, with a view to reducing their number and simplifying their character; and for that purpose, we have reviewed the various circumstances which from time to time led to their adoption, and we have had regard to the altered circumstances of our own times. We have also considered whether it is possible to remove from those forms any expressions which have been by some deemed objectionable, and yet to preserve their just force as safeguards for the agreement of the Clergy with the doctrine of the Church, and for conformity to its ritual.

We have further considered whether any of the oaths now appointed to be taken can with safety be altered or dispensed with.

We have not thought it necessary to avail ourselves of the power granted to us by Your Majesty's Commissions of taking evidence on the subjects submitted to our consideration, since we have not found, in the course of our investigations, any points which appeared to us to require such a proceeding for their elucidation or settlement.

II. The Subscriptions, Declarations, and Oaths now required from the Clergy of the United Church of England and Ireland (excluding the Declarations embodied in the questions and answers in the Ordination Services, which do not appear to come within the scope of our inquiry) are as follows:—

ENGLAND.

On Ordination as Deacon or Priest.

Every person ordained Deacon or Priest is required:—

1. To subscribe to the Articles of Religion as enjoined by the Statute of Elizabeth.—13 Eliz. c. 12. s. 5.
2. To subscribe to the Three Articles of the 36th Canon, relating to:—
   a. The Royal Supremacy.
   b. The Book of Common Prayer.
   c. The Thirty-nine Articles.
3. To take the Oath of Allegiance and the Oath of Supremacy.—1 Eliz. c. 1. and 1 Wm. & Mar. c. 8.

On being licensed to a Stipendiary Curacy.

Every person licensed to a Stipendiary Curacy is required:—

1. 2. & 3. To make the Subscriptions and take the Oaths required on Ordination as above mentioned.
4. To make and subscribe a Declaration as to the Stipend to be received.—1 & 2 Vict. c. 106. s. 81.
5. To take the Oath of Canonical Obedience.
6. To subscribe to a Declaration of conformity to the Liturgy.—13 & 14 Chas. II. c. 4. s. 8. (Act of Uniformity).
7. To read publicly in Church the Bishop's Certificate that the Declaration of Conformity to the Liturgy has been made, and the Declaration itself.—13 & 14 Chas. II. c. 4. s. 11.

On Institution or Collation to a Benefice with Cure, or Licence to a Perpetual Curacy.

Every Person instituted or collated to a Benefice with Cure, or licensed to a Perpetual Curacy is required:—

1. 2. 3. 5. 6. & 7. To make the Subscriptions and Declarations, and take the Oaths required on being licensed to a Stipendiary Curacy, as above mentioned, except the Declaration as to the stipend to be received.

8. To read publicly in Church the Articles of Religion as enjoined by the Statute of Elizabeth, with declaration of unfeigned assent to the same.—13 Eliz. c. 12. s. 3.
9. To read publicly in Church the Morning and Evening Prayers, with declaration of unfeigned assent and consent to all and everything contained and prescribed in and by the Book of Common Prayer.—13 & 14 Chas. II. c. 4. s. 6.
10. To take the Oath against Simony required by the 40th Canon.
11. To take and subscribe, in one of the Superior Courts at Westminster, or at Quarter Sessions, the Oath of Allegiance, &c. prescribed by 21 & 22 Vict. c. 48.

On being Licensed to a Lectureship.

Every Person licensed to a Lectureship is required:—

1. 2. 3. 5. 6. & 7. To make the Subscriptions and Declarations, and take the Oaths required on being licensed to a Stipendiary Curacy, as above mentioned, except the Declaration as to the stipend to be received.
12. To read before the Bishop the Thirty-nine Articles, with declaration of unfeigned assent to the same.—13 & 14 Chas. II. c. 4. s. 19.
13. To read publicly in Church, on the first lecture day of every month, the Morning and Evening Prayers, with declaration of unfeigned assent and consent to all and everything contained and prescribed in and by the Book of Common Prayer.—13 & 14 Chas. II. c. 4. s. 19.

III. We subjoin the various forms of the subscriptions, declarations, and oaths above referred to.

1 & 2. *Subscription under* 13 *Eliz. c.* 12., *and under the* 36*th Canon.*

These subscriptions are combined in practice, and the form generally used is as follows:—

"I, *A.B.*, do willingly and from my heart subscribe to the Thirty-nine "Articles of Religion of the United Church of England and Ireland, and to "the three Articles in the thirty-sixth Canon, and to all things therein "contained."

The Three Articles in the 36th Canon are as follows:—

"I. That the Queen's Majesty, under God, is the only Supreme Governor of this "Realm, and of all other Her Highness's dominions and countries, as well in all Spiritual "or Ecclesiastical things or causes as Temporal, and that no foreign prince, person, "prelate, state, or potentate hath or ought to have any jurisdiction, power, superiority, "pre-eminence, or authority, Ecclesiastical or Spiritual, within Her Majesty's said realms, "dominions, and countries.

"II. That the Book of Common Prayer, and of Ordering of Bishops, Priests, and "Deacons, containeth in it nothing contrary to the Word of God, and that it may "lawfully so be used; and that he himself will use the form in the said Book prescribed, "in public Prayer, and Administration of the Sacraments, and none other.

"III. That he alloweth the Book of Articles of Religion agreed upon by the Arch-"bishops and Bishops of both provinces, and the whole Clergy in the Convocation "holden at London in the year of our Lord God one thousand five hundred sixty and "two; and that he acknowledgeth all and every the Articles therein contained, being in "number nine and thirty, besides the ratification, to be agreeable to the Word of God."

3. *Oaths of Allegiance and Supremacy, under* 1 *Eliz. c.* 1. *and* 1 *Wm. & Mar. c.* 8.

"I, *A.B.*, do sincerely promise and swear, That I will be faithful and bear true "allegiance to Her Majesty Queen Victoria. So help me God."

"I, *A.B.*, do swear, That I do from my heart abhor, detest, and abjure as "impious and heretical, that damnable doctrine and position that princes "excommunicated or deprived by the pope, or any authority of the see of Rome, "may be deposed or murdered by their subjects, or any other whatsoever. "And I do declare that no foreign prince, person, prelate, state, or potentate, "hath or ought to have any jurisdiction, power, superiority, pre-eminence, or "authority, Ecclesiastical or Spiritual, within this realm. So help me God."

The Oath required by the Rubric to be taken during the Ordination and Consecration Services, and called in the Service for the Ordering of Deacons "the Oath "of the Queen's Sovereignty," is identical with the Oath of Supremacy just stated. The practice has been to administer the Oath of Allegiance also during those services.

4. *Declaration as to Curates Stipends, under* 1 *&* 2 *Vict. c.* 106. *s.* 81.

This Declaration is written at the foot of the nomination to the curacy, and is as follows :—

" We, the before-mentioned *A.B.* [incumbent] and *C.D.* [curate], do declare " to the Lord Bishop of , as follows, namely :—I, the said *A.B.*, do " declare that I *bonâ fide* intend to pay, and I, the said *C.D.*, do declare that I " *bonâ fide* intend to receive, the whole actual stipend mentioned in the fore- " going nomination and statement, without any abatement in respect of rent, " or consideration for the use of the glebe house, and without any other " deduction or reservation whatever."

5. *Oath of Canonical Obedience.*

This oath has been uniformly required, not by any Statute or Canon, but by custom. The form generally used is as follows :—

" I, *A.B.*, Clerk, do swear that I will pay true and canonical obedience to " the Lord Bishop of *C.* and his successors, in all things lawful and honest."

We may notice here, that an oath, analogous to that of canonical obedience, is taken by Bishops during the consecration service as prescribed by the Rubric. This oath is as follows :—

" In the name of God. Amen. I, *N.*, chosen Bishop of the Church and " See of *N.*, do profess and promise all due reverence and obedience to the " Archbishop and to the Metropolitical Church of *N.*, and to their successors. " So help me God, through Jesus Christ."

6 & 7. *Declaration of Conformity to the Liturgy under the Act of Uniformity,* 13 *&* 14 *Chas. II. c.* 4. *s.* 8.

" I, *A. B.*, do declare that I will conform to the Liturgy of the United Church " of England and Ireland, as it is now by law established."

8 & 12. *Declaration of Assent to the Articles under* 13 *Eliz. c.* 12.

There is no settled form for this Declaration.

9 & 13. *Public Declaration in Church of Assent to the Prayer Book under the Act of Uniformity,* 13 *&* 14 *Chas. II. c.* 4. *s.* 6.

" I, *A. B.*, do hereby declare my unfeigned assent and consent to all and every " thing contained and prescribed in and by the Book intituled 'The Book of " ' Common Prayer, and Administration of the Sacraments, and other Rites and " ' Ceremonies of the Church, according to the Use of the United Church of " ' England and Ireland: together with the Psalter or Psalms of David, pointed " ' as they are to be sung or said in Churches; and the Form or Manner of " ' Making, Ordaining, and Consecrating of Bishops, Priests, and Deacons.' "

10. *Oath against Simony under the* 40*th Canon.*

" I, *N. N.*, do swear, That I have made no simoniacal payment, contract, or " promise, directly or indirectly, by myself, or by any other, to my knowledge, or " with my consent, to any person or persons whatsoever, for or concerning the " procuring and obtaining of this ecclesiastical dignity, place, preferment, office, " or living [respectively and particularly naming the same whereunto he is to be " admitted, instituted, collated, installed, or confirmed], nor will at any time " hereafter perform or satisfy any such kind of payment, contract, or promise, " made by any other without my knowledge or consent: So help me God " through Jesus Christ."

11. *Oath of Allegiance, &c., under* 21 *&* 22 *Vict. c.* 48.

" I, *A. B.*, do swear that I will be faithful and bear true allegiance to Her " Majesty Queen Victoria, and will defend her to the utmost of my power against " all conspiracies and attempts whatever which shall be made against her person, " crown, or dignity; and I will do my utmost endeavour to disclose and make " known to Her Majesty, Her heirs and successors, all treasons and traitorous " conspiracies which may be formed against Her or them. And I do faithfully " promise to maintain, support, and defend, to the utmost of my power, the " succession of the Crown, which succession, by an Act intituled 'An Act for the " ' further Limitation of the Crown, and better securing the Rights and Liberties " ' of the Subject,' is and stands limited to the Princess Sophia, Electress of

" Hanover, and the heirs of her body being Protestants, hereby utterly renouncing " and abjuring any obedience or allegiance unto any other person claiming or " pretending a right to the Crown of this Realm. And I do declare that no " foreign Prince, Person, Prelate, State, or Potentate hath, or ought to have, any " jurisdiction, power, superiority, pre-eminence, or authority, Ecclesiastical or " Spiritual, within this Realm. And I make this declaration upon the true faith " of a Christian. So help me God."

IRELAND.

IV.—On Ordination as Deacon or Priest.

Every person ordained Deacon or Priest is required:—

1. To subscribe to the first four Irish Canons, relating to:—
   a. The Thirty-nine Articles.
   b. The Royal Supremacy.
   c. The Book of Common Prayer.
   d. The Book of Ordering Bishops, Priests, and Deacons.
2. To take and subscribe the Oath of Allegiance, &c., prescribed by the 21 & 22 Vict. c. 48. (*vid: inf:* p. 14, l. 22)
3. To make and subscribe a Declaration against Transubstantiation, &c.—3 Wm. & Mar. c. 2. s. 5.

On being licensed to a Stipendiary Curacy.

Every person licensed to a Stipendiary Curacy is required:—

1. 2. & 3. To make the Subscriptions and take the Oath required on Ordination as above mentioned.
4. To take the Oath of Canonical Obedience.
5. To subscribe to a Declaration of conformity to the Liturgy.—17 & 18 Chas. II. c. 6. s. 5. (Irish Act of Uniformity).
6. To read publicly in Church the Bishop's Certificate that the Declaration of Conformity to the Liturgy has been made, and the Declaration itself.—17 & 18 Chas. II. c. 6. s. 6.

On Institution or Collation to a Benefice with Cure, or Licence to a Perpetual Curacy.

Every Person instituted or collated to a Benefice with cure, or licensed to a Perpetual Curacy is required:—

1. 2. 3. 4. 5. & 6. To make the Subscriptions and Declarations, and take the Oaths required on being licensed to a Stipendiary Curacy, as above mentioned.
7. To read publicly in Church the Morning and Evening Prayers, with declaration of unfeigned assent and consent to all and everything contained and prescribed in and by the Book of Common Prayer.—17 & 18 Chas. II. c. 6. s. 3.
8. To take the Oath against Simony required by the 35th Irish Canon.
9. To take and subscribe, in one of the Superior Courts at Dublin, or at Quarter Sessions, the Oath of Allegiance, &c., prescribed by 21 & 22 Vict. c. 48.

And in the case of admission to a Benefice which paid First Fruits,—

10. To take the Oath to keep a School for teaching English required by 28 Hen. VIII. c. 15. (*Irish.*)

On being Licensed to a Lectureship.

Every Person licensed to a Lectureship is required:—

1. 2. 3. 4. 5. & 6. To make the Subscriptions and Declarations, and take the Oaths required on being licensed to a Stipendiary Curacy, as above mentioned.
11. To read before the Bishop the Thirty-nine Articles, with declaration of unfeigned assent to the same.—17 & 18 Chas. II. c. 6. s. 13.
12. To read publicly in Church, on the first lecture day of every month, the Morning and Evening Prayers, with declaration of unfeigned assent and consent to all and everything contained and prescribed in and by the Book of Common Prayer.—17 & 18 Chas. II. c. 6. s. 13.

V. The forms of such of the Subscriptions, Declarations, and Oaths in use in Ireland as differ from those in use in England are as follows:—

1. *Subscription under the 32nd Irish Canon.*

The Subscription to the first four Irish Canons, required by the 32nd Irish Canon, is made by subscribing a roll on which those four Canons are engrossed. They are as follows:—

1st (Irish) Canon.—Of the Agreement of the Church of England and Ireland in the profession of the same Christian religion.

" For the manifestation of our agreement with the Church of *England*, in the " confession of the same Christian faith, and the doctrine of the Sacraments: " We do receive and approve the Book of Articles of Religion agreed upon by

" the Archbishops and Bishops, and the whole clergy in the convocation holden " at *London* in the Year of our Lord 1562, for the avoiding of diversities of " opinions, and for the establishing of consent touching true religion. And " therefore if any hereafter shall affirm, that any of those articles are in any " part superstitious or erroneous, or such as he may not with a good conscience " subscribe unto, let him be excommunicated, and not absolved before he make " a public revocation of his error."

2nd (Irish) Canon.—The King's supremacy in causes ecclesiastical to be maintained.

" All ecclesiastical persons having cure of souls, and all other preachers and " readers of divinity lectures, shall to the utmost of their wit, knowledge, and " learning, purely and sincerely (without any colour or dissimulation) teach, " manifest, open, and declare, four times every year (at the least) in their " sermons, and other collations and lectures, That all usurped and foreign " power (forasmuch as the same hath no establishment nor ground by the law " of God) is for most just causes taken away and abolished: and that therefore " no manner of obedience or subjection within His Majesty's realms and " dominions is due unto such foreign power; but that the King's power within " his realm of Ireland, and all other his dominions and countries, is the highest " power under God, to whom all men, as well inhabitants as born within the " same, do by God's laws owe all loyalty and obedience, and to no other " foreign power and potentate in the earth. And whosoever shall hereafter " maintain, that the King's Majesty hath not the same authority in causes " ecclesiastical, that the godly kings had among the Jews, and Christian " Emperors in the primitive Church, or impeach in any part his regal supre- " macy in the said causes restored to the Crown, and by the laws of this realm " therein established, let him be excommunicated, and not restored but only " by the Archbishop of the province, after his repentance, and public revocation " of his error."

3rd (Irish) Canon.—Of the prescript Forms of Divine Service contained in the Book of Common Prayer.

" That form of Liturgy or Divine Service, and no other, shall be used in " any church of this Realm, but that which is established by the law, and " comprised in the Book of Common Prayer and administration of Sacraments. " And if any one shall preach, or by other open words declare or speak anything " in the derogation or despising of the said Book, or of anything therein " contained, let him be excommunicated, and not restored until he repent, and " publicly revoke his error."

4th (Irish) Canon.—Of the Form of consecrating and ordering Archbishops, Bishops, &c., and of the Churches established according to that Order.

" That form of Ordination and no other shall be used in this church, but " that which is contained in the Book of ordering Bishops, Priests, and " Deacons, allowed by authority, and hitherto practised in the Churches of " England and Ireland. And if any shall affirm, that they who are consecrated " or ordered according to those rites are not lawfully made, nor ought to be " accounted either Bishops, Priests, or Deacons; or shall deny that the " Churches established under this Government are true Churches, or refuse " to join with them in Christian profession, let him be excommunicated, and " not restored until he repent, and publicly revoke his error."

2. *Declaration against Transubstantiation, &c. required from the Irish Clergy under 3 Will. & Mary, c. 2.*

" I, *A.B.*, do solemnly and sincerely, in the presence of God, profess, testify, " and declare, that I do believe, that in the Sacrament of the Lord's Supper " there is not any Transubstantiation of the elements of bread and wine into " the body and blood of Christ, at or after the consecration thereof by any " person whatsoever; and that the Invocation or Adoration of the Virgin " Mary, or any other Saint, and the sacrifice of the Mass, as they are now " used in the Church of Rome, are superstitious and idolatrous. And I do " solemnly, in the presence of God, profess, testify, and declare, that I do make " this declaration, and every part thereof, in the plain and ordinary sense of

" the words read unto me, as they are commonly understood by Protestants,
" without any evasion, equivocation, or mental reservation whatsoever, and
" without any dispensation already granted me for this purpose by the Pope,
" or any other authority or person whatsoever, or without any hope of any
" such dispensation from any person or authority whatsoever, or without
" believing that I am or can be acquitted before God or man, or absolved of
" this declaration, or any part thereof, although the Pope, or any other person
" or persons or power whatsoever, should dispense with or annul the same,
" or declare that it was null and void from the beginning."

3. *Oath required from the Irish Clergy under the* 28 *Hen. VIII. c.* 15. (*Irish*) *on admission to a Benefice which paid First Fruits.*

" I, *A.B.*, do swear that I will instruct or cause to be instructed by a
" deputy the children of my parish in the English tongue according as the law
" requires."

The forms of the Oath against Simony, under the 35th Irish Canon, of the Declarations of Conformity to the Liturgy and of Assent to the Book of Common Prayer, under the Irish Act of Uniformity (17 & 18 Chas. II. c. 6.) are the same as in England. The form of the Oath of Canonical Obedience is substantially the same. The Oath of Allegiance, &c. used in Ireland is that prescribed by 21 & 22 Vict. c. 48. and stated above (p. 11), the construction put upon that Act in Ireland being different from that which has been adopted in England.

VI. The material clauses of the English and Irish Acts of Parliament, and the English and Irish Canons on which the above Subscriptions, Declarations, and Oaths depend, will be found in the Appendix.

RECOMMENDATIONS.

VII. We have carefully weighed these various Subscriptions, Declarations, and Oaths, and after much investigation and discussion, we have agreed to the following Recommendations:—

First, that the Declarations, Subscriptions, and Oaths to be made and taken by the Clergy of the United Church of England and Ireland be the same in England and Ireland; and that the Oath required by 28 Hen. VIII. c. 15. and the Declaration required by 3 Wm. & Mar. c. 2. to be taken and made by the Clergy in Ireland be discontinued.

Second, that on every occasion on which a Subscription or Declaration shall be required to be made in England or Ireland, with reference to the Articles of Religion, or the Book of Common Prayer, the following form be used:—

I, A.B., *do solemnly make the following declaration:—*

I assent to the Thirty-nine Articles of Religion, and to the Book of Common Prayer, and of Ordering of Bishops, Priests, and Deacons: I believe the doctrine of the United Church of England and Ireland, as therein set forth, to be agreeable to the Word of God: and in Public Prayer and Administration of the Sacraments I will use the form in the said Book prescribed, and none other, except so far as shall be ordered by lawful authority.

Third, that the Oath of Allegiance and Supremacy be taken before, and not during, the Ordination and Consecration services.

Fourth, that the following Declaration be substituted for the present oath against Simony:—

" *I*, A.B., *solemnly declare that I have not made by myself, or by any other person on*
" *my behalf, any payment, contract, or promise of any kind whatsoever, which to the*
" *best of my knowledge is simoniacal, touching or concerning the obtaining the*
" *preferment of ; nor will I at any time hereafter perform or satisfy, in whole or in*
" *part, any such kind of payment, contract, or promise made by any other without my*
" *knowledge or consent.*"

Fifth, that the Oath of Canonical Obedience to the Bishop of the Diocese, and the Oath of due obedience to the Archbishop taken by Bishops on consecration, be retained.

Sixth, that the Declaration required by the 1st & 2nd Vict. c. 106. s. 81. as to the stipends of Curates, be retained in England, and extended to Ireland.

Seventh, that the special Provisions of the English and Irish Acts of Uniformity (13 & 14 Chas. II. c. 4. s. 19. and 17 & 18 Chas. II. c. 6, s. 13.), with reference to the Declarations to be made by Lecturers, be repealed.

Eighth, that the time and manner of making the Subscription and Declaration, and of taking the Oaths, be as follows:—

Before Ordination as Deacon or Priest.

Every person about to be ordained Deacon or Priest shall, previously to Ordination, in the presence of the Bishop, at some convenient time and place:—

1. Take the Oath of Allegiance and Supremacy.
2. Make and subscribe the Declaration of Assent as set forth:—

"*I*, A.B., *do solemnly make the following Declaration:—*
"*I assent to the Thirty-nine Articles of Religion, and to the Book of*
"*Common Prayer, and of Ordering of Bishops, Priests, and Deacons:*
"*I believe the doctrine of the United Church of England and*
"*Ireland, as therein set forth, to be agreeable to the Word of God:*
"*and in Public Prayer and Administration of the Sacraments I will*
"*use the form in the said Book prescribed, and none other, except so*
"*far as shall be ordered by lawful authority.*"

On being licensed to a Stipendiary Curacy.

Every person about to be licensed to a Stipendiary Curacy shall, before the licence is granted:—

1. Make and subscribe the Declaration as to the stipend to be received prescribed by the 1st & 2nd Vict. c. 106.

And in the presence of the Bishop or his Commissary:—

2. Take the Oath of Allegiance and Supremacy.
3. Make and subscribe the Declaration of Assent.

But if the licence is granted on the day of Ordination, the Declaration and Subscription need not be repeated.

4. Take the Oath of Canonical Obedience.

And every person licensed to a Stipendiary Curacy shall, in the Church in which he is licensed to serve, in the presence of the Congregation, on the first Sunday on which he officiates therein:—

5. Make the Declaration of Assent.

On Institution or Collation to a Benefice with Cure, or Licence to a Perpetual Curacy.

Every person about to be instituted or collated to any Benefice with Cure, or to be licensed to any Perpetual Curacy, shall, in the presence of the Bishop or his Commissary:—

1. Take the Oath of Allegiance and Supremacy.
2. Make and subscribe the Declaration of Assent.
3. Make the Declaration against Simony as above set forth.
4. Take the Oath of Canonical Obedience.

And, Every person instituted or collated to any Benefice with Cure, or licensed to any Perpetual Curacy, shall, in the presence of the Congregation assembled in the Church thereof, on the first Sunday on which he officiates therein, or on such other Sunday as the Ordinary may appoint or allow, after reading the Morning and Evening Prayers according to the Statutes, and after reading the Thirty-nine Articles:—

5. Make the Declaration of Assent, adding after the words "Thirty-nine Articles of Religion," the words "which I have now read before you."

On being licensed to a Lectureship.

Every person about to be licensed to a Lectureship shall, in the presence of the Bishop or his Commissary:—

1. Take the Oath of Allegiance and Supremacy.
2. Make and subscribe the Declaration of Assent.
3. Take the Oath of Canonical Obedience.

On Appointment to any other Ecclesiastical Dignity, Benefice, or Office.

Every person in Holy Orders appointed to any Ecclesiastical Dignity, Benefice, or Office other than those above mentioned, who on such appointment would now be required to make or subscribe any Declaration with reference to the Thirty-nine Articles, the Book of Common Prayer, or the Liturgy, or to take the Oath against Simony, shall, in lieu thereof respectively, make or subscribe the Declaration of Assent, and the Declaration against Simony.

VIII. In addition to the above recommendations, we submit the following suggestions with regard to two subjects, which do not, perhaps, fall strictly within the limits of the inquiry with which we have been charged by Your Majesty:—

1. We have recommended the substitution of a Declaration for the present oath against Simony; to this recommendation we desire to add an expression of our opinion, that the law on the subject of Simony urgently requires revision.

2. There is another class of Oaths, "required to be taken by the Clergy of the United Church of England and Ireland," on admission to certain Ecclesiastical Dignities, namely, those taken in virtue of Cathedral Statutes by Bishops, Deans, Archdeacons, and Canons. We have considered this subject, and being of opinion that some doubt may be entertained whether the Oaths in question fall within the scope of Your Majesty's Commission, we content ourselves with expressing our opinion that it is highly desirable they should be revised by competent authority.

IX. These Recommendations we now humbly offer to Your Majesty. To carry them into effect, some alterations must be made in the Canons of the Church, and some in the Statutes of the Realm. We trust that our proposals will be willingly accepted both by the Church and by the State.

9th February 1865.

C. T. CANTUAR: (L.S.)
W. EBOR: (L.S.)
MARCUS G. ARMAGH. (L.S.)
RICHARD C. DUBLIN. (L.S.)
STANHOPE. (L.S.)
HARROWBY. (L.S.)
A. C. LONDON. (L.S.)
C. R. WINTON: (L.S.)
C. St. DAVID'S. (L.S.)
S. OXON: (L.S.)
LYTTELTON. (L.S.)
CRANWORTH. (L.S.)
EBURY. (L.S.)
E. P. BOUVERIE. (L.S.)
STEPHEN LUSHINGTON. (L.S.)
SPENCER H. WALPOLE. (L.S.)
JOSEPH NAPIER: (L.S.)
JOHN TAYLOR COLERIDGE. (L.S.)
CHARLES BUXTON. (L.S.)
H. H. MILMAN. (L.S.)
H. GOODWIN. (L.S.)
JOHN SANDFORD. (L.S.)
WILLIAM JACOBSON. (L.S.)
J. A. JEREMIE. (L.S.)
HENRY VENN. (L.S.)
W. G. HUMPHRY. (L.S.)

Thomas Fassett Kent,
Secretary.

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APPENDIX No. 1.

Articles and Prayer Book.

A.

Eliz. c. 12. Extracts from Stat. 13 Eliz. c. 12., "An Act for the Ministers of the Church to be of sound Religion."

"That the Churches of the Queen's Majesty's dominions may be served with Pastors of sound religion, be it enacted, by the authority of this present Parliament, that every person under the degree of a Bishop which doth or shall pretend to be a Priest or Minister of God's Holy Word and Sacraments, by reason of any other form of institution, consecration, or ordering than the form set forth by Parliament in the time of the late King of most worthy memory, King Edward the Sixth, or now used in the reign of our most gracious Sovereign Lady, before the Feast of the Nativity of Christ next following, shall in the presence of the Bishop or Guardian of the Spiritualities of some one Diocese where he hath or shall have Ecclesiastical living, declare his assent and subscribe to all the Articles of Religion which only concern the Confession of the true Christian Faith and the doctrine of the Sacraments, comprised in a book imprinted, intituled "*Articles whereupon it was agreed by the "Archbishops and Bishops of both Provinces, and "the whole Clergy in the Convocation holden at "London in the year of our Lord God One thousand "five hundred sixty and two, according to the com-"putation of the Church of England, for the avoiding "the diversities of opinions and for the establishing "of consent touching true religion; put forth by the "Queen's authority,*" and shall bring from such Bishop or Guardian of Spiritualities, in writing under his seal authentick, a testimonial of such assent and subscription, and openly on some Sunday in the time of the Public Service afore noon, in every Church where, by reason of any Ecclesiastical living, he ought to attend, read both the said testimonial and the said articles, upon pain that every such person which shall not before the said Feast do as is above appointed shall be *ipso facto* deprived, and all his Ecclesiastical promotions shall be void, as if he then were naturally dead. . . . ."

Sect. 3. "And that no person shall hereafter be admitted to any Benefice with Cure, except he then be of the age of three and twenty years at the least, and a Deacon, and shall first have subscribed the said Articles in presence of the Ordinary, and publickly read the same in the Parish Church of that Benefice, with declaration of his unfeigned assent to the same; and that every person after the end of this Session of Parliament, to be admitted to a Benefice with Cure, except that within two months* after his induction he do publickly read the said Articles in the same Church whereof he shall have Cure, in the time of Common Prayer there, with declaration of his unfeigned assent thereunto, and be admitted to minister the Sacraments within one year after his induction, if he be not so admitted before, shall be, upon every such default, *ipso facto*, immediately deprived." . . .

Several things required in him that shall be admitted to a benefice.

Sect. 5. "And that none" . . . "shall be admitted to the Order of Deacon or Ministry, unless he shall first subscribe to the said Articles."

B.

Extracts from Stat. 13 & 14 Chas. II. c. 4., commonly called the Act of Uniformity, and Stat. 1. Will. & Mary, c. 8. s. 11.

Act of Uniformity. 13 & 14 Car. II. c. 4.

† Sect. 2 (3.) "And to the end that uniformity in the Public Worship of God (which is so much desired

All Parsons, Vicars, and Ministers to read and declare their assent to use the same.

* By 23 Geo. 2. c. 28. s. 2., persons reading the Articles, and making the declaration of assent thereto, at the time of reading the Morning and Evening Prayer, and declaring their "unfeigned "assent and consent to the use of all things therein contained "and prescribed, according to the directions" of the Act of Uniformity, although not within two months, are declared to have complied with this requisition.

† The sections in this Act are numbered differently in the Queen's Printers' folio copies, and in the Statutes at Large. Both numbers are given, those in the Statutes at Large being put last and in brackets.

may be speedily effected : Be it further enacted by the authority aforesaid, that every parson, vicar, or other minister whatsoever, who now hath, and enjoyeth any ecclesiastical benefice or promotion, within this Realm of *England*, or places aforesaid, shall in the Church, Chapel, or place of Publick Worship belonging to his said Benefice or Promotion, upon the Lord's Day before the Feast of St. *Bartholomew*, which shall be in the Year of our Lord God One thousand six hundred sixty and two, openly, publickly, and solemnly read the Morning and Evening Prayer appointed to be read by and according to the said Book of Common Prayer, at the times thereby appointed ; and after such reading thereof, shall openly and publickly, before the Congregation there assembled, declare his unfeigned assent and consent to the use of all things in the said Book contained and prescribed, in these words and no other ;

Sect. 2 (4.) "I, *A.B.*, do hereby declare my unfeigned assent and consent to all and every thing contained and prescribed in and by the Book intituled *The Book of Common Prayer and Administration of the Sacraments and other Rites and Ceremonies of the Church, according to the Use of the Church of* England : *together with the Psalter or Psalms of* David *pointed as they are to be sung or said in Churches ; and the Form or Manner of Making, Ordaining and Consecrating of Bishops, Priests, and Deacons.*"

The penalty for refusing.

Sect. 3 (5.) "And that all and every such person who shall (without some lawful Impediment, to be allowed and approved of by the Ordinary of the place) neglect or refuse to do the same within the time aforesaid, or (in case of such Impediment) within one Month after such Impediment removed, shall, *ipso facto*, be deprived of all his Spiritual Promotions : And that from thenceforth it shall be lawful to and for all Patrons and Donors of all and singular the said Spiritual Promotions, or of any of them, according to their respective Rights and Titles, to present or collate to the same, as though the person or persons so offending or neglecting were dead."

Every Parson shall read the Common Prayer and declare his assent thereto.

Sect. 4 (6.) "And be it further enacted by the Authority aforesaid, That every person who shall hereafter be presented or collated, or put into any Ecclesiastical Benefice or Promotion, within this Realm of *England* and places aforesaid, shall in the Church, Chapel, or place of Publick Worship belonging to his said Benefice or Promotion, within two months next after that he shall be in the actual possession of the said Ecclesiastical Benefice or Promotion, upon some Lord's Day, openly, publickly, and solemnly read the Morning and Evening Prayers appointed to be read by and according to the said Book of Common Prayer, at the times thereby appointed ; and after such reading thereof, shall openly and publickly, before the Congregation there assembled, declare his unfeigned assent and consent to the use of all things therein contained and prescribed, according to the form before appointed : And that all and every such person who shall (without some lawful Impediment,* to be allowed and approved by the Ordinary of the place) neglect or refuse to do the same within the time aforesaid (or in case of such Impediment, within one Month after such Impediment removed), shall *ipso facto* be deprived of all his said Ecclesiastical Benefices and Promotions : And that from thenceforth it shall and may be lawful to and for all Patrons and Donors of all and singular the said Ecclesiastical Benefices and Promotions, or any of them, according to their respective Rights and Titles, to present or collate to the same, as though the person or persons so offending or neglecting were dead. . . ."

The penalty for not so doing.

Deans, &c. shall subscribe the declaration.

Sect. 6 (8.) "And be it further enacted by the Authority aforesaid, That every Dean, Canon, and Prebendary of every Cathedral or Collegiate Church, and all Masters and other Heads, Fellows, Chaplains, and Tutors of or in any College, Hall, House of Learning, or Hospital, and every publick Professor and Reader in either of the Universities, and in every College elsewhere, and every Parson, Vicar, Curate, Lecturer, and every other Person in Holy Orders, and every Schoolmaster keeping any public or private School, and every person instructing or teaching any Youth in any House or private Family, as a Tutor or Schoolmaster, who upon the First Day of *May*, which shall be in the year of our Lord God One thousand six hundred sixty-two, or at any time thereafter shall be Incumbent, or have possession of any Deanery, Canonry, Prebend, Mastership, Headship, Fellowship, Professor's place or Reader's place, Parsonage, Vicarage, or any other Ecclesiastical Dignity or Promotion, or of any Curate's place, Lecture, or School ; or shall instruct or teach any Youth as Tutor or Schoolmaster, shall before the Feast Day of Saint *Bartholomew*, which shall be in the Year of Our Lord One thousand six hundred sixty-two, or at or before his or their respective admission to be Incumbent or have possession aforesaid, subscribe the Declaration or Acknowledgement following, *scilicet*,

The decla tion.

Sect. 6 (9.) "'I, A. B., do declare, That it is not lawful, upon any pretence whatsoever to take arms against the King ; and that I do abhor that traitorous Position of taking Arms by his Authority against his Person, or against those that are commissioned by him ; and that I will conform to the Liturgy of the Church of England, as it is now by Law established. And I do declare that I do hold there lies no obligation upon me, or any other person, from the Oath commonly called *The Solemn League and Covenant*, to endeavour any change or alteration of Government either in Church or State ; and that the same was in itself an unlawful Oath, and imposed upon the Subjects of this Realm against the known Laws and Liberties of this Kingdom.'"

In part al lished by 1 W. & M sess. 1. c. s. 11., in fra, p. 20.

Infra, s. 8 (12.)

Sect. 6 (10.) "Which said Declaration and Acknowledgement shall be subscribed by every of the said Masters, and other Heads, Fellows, Chaplains, and Tutors of or in any College, Hall, or House of Learning, and by every publick Professor and Reader in either of the Universities, before the Vice-Chancellor of the respective Universities for the time being, or his Deputy : And the said Declaration or Acknowledgement shall be subscribed before the respective Archbishop, Bishop, or Ordinary of the Diocese by every other person hereby enjoined to subscribe the same ; upon pain, that all and every of the persons aforesaid failing in such subscription, shall lose and forfeit such respective Deanry, Canonry, Prebend, Mastership, Headship, Fellowship, Professor's place, Reader's place, Parsonage, Vicarage, Ecclesiastical Dignity or Promotion, Curate's place, Lecture and School, and shall be utterly disabled, and *ipso facto* deprived of the same : And that every such respective Deanry, Canonry, Prebend, Mastership, Headship, Fellowship, Professor's place, Reader's place, Parsonage, Vicarage, Ecclesiastical Dignity or Promotion, Curate's place, Lecture and School shall be void, as if such person so failing were naturally dead."

The penal for not su scribing.

Schoolmasters in private houses.

Repealed to schoolmasters b 9 & 10 Vic c. 59.

Sect. 7 (11.) "And if any Schoolmaster, or other person, instructing or teaching Youth in any private House or Family, as a Tutor or Schoolmaster, shall instruct or teach any Youth, as a Tutor or Schoolmaster, before Licence obtained from his respective Archbishop, Bishop, or Ordinary of the Diocese, according to the Laws and Statutes of this Realm (for which he shall pay twelve-pence only) and before such Subscription and Acknowledgement made, as aforesaid : Then every such Schoolmaster, and other instructing and teaching, as aforesaid, shall for the first offence suffer three Months Imprisonment without Bail or Mainprize ; and for every second and other such offence shall suffer three Months Imprisonment without Bail or Mainprize, and also forfeit to His Majesty the Sum of five pounds : And after such subscription made, every such Parson, Vicar, Curate, and Lecturer, shall procure a Certificate under the

* By 23 Geo. 2. c. 28. s. 1., the allowance of a lawful impediment is extended to the not reading, within the time limited, the Certificate and Declaration of Conformity subsequently mentioned.

Hand and Seal of the respective Archbishop, Bishop, or Ordinary of the Diocese (who are hereby enjoined and required upon Demand to make and deliver the same) and shall publickly and openly read the same, together with the Declaration or Acknowledgement aforesaid, upon some Lord's Day, within three Months then next following, in his Parish Church, where he is to officiate, in the presence of the congregation there assembled, in the time of Divine Service ; upon pain that every person failing therein shall lose such Parsonage, Vicarage, or Benefice, Curate's place, or Lecturer's place respectively, and shall be utterly disabled, and *ipso facto* deprived of the same ; and that the said Parsonage, Vicarage, or Benefice, Curate's place, or Lecturer's place shall be void as if he was naturally dead."

Sect. 8 (12.) "Provided always, That from and after the twenty-fifth Day of *March*, which shall be in the Year of our Lord God One thousand six hundred eighty-two, there shall be omitted in the said Declaration or Acknowledgement so to be subscribed and read, these words following, *scilicet:*

"'And I do declare, That I do hold there lies no 'Obligation upon me, or on any other Person, from 'the Oath commonly called *The Solemn League and* 'Covenant, to endeavour any change or alteration of 'Government either in Church or State ; and that the 'same was in itself an unlawful Oath, and imposed 'upon the subjects of this Realm against the known 'Laws and Liberties of this Kingdom.'

"So as none of the Persons aforesaid shall from thenceforth be at all obliged to subscribe or read that part of the said Declaration or Acknowledgement."

Sect. 13 (17.) "And be it further enacted by the Authority aforesaid, That no form or order of Common Prayers, Administration of Sacraments, Rites, or Ceremonies shall be openly used in any Church, Chapel, or other publick Place of or in any College or Hall in either of the Universities, the Colleges of Westminster, Winchester, or Eton, or any of them, other than what is prescribed and appointed to be used in and by the said Book, and that the present Governor or Head of every College and Hall in the said Universities, and of the said Colleges of Westminster, Winchester, and Eton, within one month after the Feast of St. *Bartholomew*, which shall be in the year of our Lord One thousand six hundred forty and two, and every Governor and Head of any of the said Colleges or Halls hereafter to be elected or appointed, within one month next after his election or collation and admission into the same Government or Headship shall openly and publickly, in the Church, Chapel, or other publick Place of the same College or Hall, and in the presence of the Fellows and Scholars of the same, or the greater part of them then resident, subscribe unto the Nine and thirty Articles of Religion mentioned in the Statute made in the 13th year of the Reign of the late Queen *Elizabeth*, and unto the said Book, and declare his unfeigned assent and consent unto and approbation of the said Articles and of the same Book, and to the use of all the Prayers, Rites and Ceremonies, Forms and Orders in the said Book prescribed and contained, according to the Form aforesaid. . . ."

Sect. 15 (19.) "And be it further enacted by the Authority aforesaid, That no person shall be, or be received as a Lecturer, or permitted, suffered, or allowed to preach as a Lecturer, or to preach or read any Sermon or Lecture in any Church, Chapel, or other Place of Publick Worship, within this Realm of *England*, or the Dominion of *Wales*, and Town of *Berwick* upon *Tweed*, unless he be first approved, and thereunto licensed by the Archbishop of the Province, or Bishop of the Diocese, or (in case the See be void) by the Guardian of the Spiritualities, under his seal ; and shall in the presence of the same Archbishop or Bishop, or Guardian, read the Nine and thirty Articles of Religion mentioned in the Statute of the Thirteenth Year of the late Queen *Elizabeth*, with Declaration of his unfeigned Assent to the same ; and that every Person and Persons, who now is, or hereafter shall be licensed, assigned, appointed, or received as a Lecturer, to preach upon any Day of the Week in any Church, Chapel, or place of Public Worship within this Realm of *England*, or Places aforesaid, the first time he preacheth (before his Sermon) shall openly, publickly, and solemnly read the Common Prayers and Service in and by the said Book appointed to be read for that time of the day, and then and there publickly and openly declare his Assent unto and Approbation of the said Book, and to the use of all the Prayers, Rites and Ceremonies, Forms and Orders, therein contained and prescribed according to the Form before appointed in this Act ; and also shall upon the first Lecture-day of every Month afterwards, so long as he continues Lecturer, or Preacher there, at the place appointed for his said Lecture or Sermon, before his said Lecture or Sermon, openly, publickly, and solemnly read the Common Prayers and Service in and by the said Book appointed to be read for that time of the day, at which the said Lecture or Sermon is to be preached, and after such reading thereof, shall openly and publickly, before the Congregation there assembled, declare his unfeigned Assent and Consent unto and Approbation of the said Book, and to the Use of all the Prayers, Rites and Ceremonies, Forms and Orders, therein contained and prescribed, according to the Form aforesaid ; and that all and every such Person or Persons who shall neglect or refuse to do the same shall from thenceforth be disabled to preach the said or any other Lecture or Sermon in the said or any other Church, Chapel, or place of Publick Worship, until such time as he and they shall openly, publickly, and solemnly read the Common Prayers and Service appointed by the said Book, and conform in all points to the things therein appointed and prescribed, according to the purport, true intent, and meaning of this Act. . . . ."

Sect. 26 (30.) "Provided always, That whereas the Six and thirtieth Article of the Nine and thirty Articles agreed upon by the Archbishops and Bishops of both Provinces, and the whole Clergy in the Convocation holden at *London*, in the Year of our Lord One thousand five hundred sixty-two for the avoiding of diversities of Opinions, and for establishing of consent touching true Religion, is in these words following, viz. :

Proviso concerning the Thirty-sixth Article agreed in the Convocation.

"*That the Book of Consecration of Archbishops and Bishops, and Ordaining of Priests and Deacons, lately set forth in the Time of King* Edward *the Sixth, and confirmed at the same time by Authority of Parliament, doth contain all things necessary to such Consecration and Ordaining, neither hath it any thing that of itself is superstitious and ungodly ; and therefore whosoever are consecrated or ordered according to the Rites of that Book since the second Year of the aforenamed King* Edward *unto this time, or hereafter shall be consecrated or ordered according to the same Rites ; We decree all such to be rightly, orderly, and lawfully consecrated and ordered :*"

Sect. 26 (31.) "It be enacted, and be it therefore enacted by the Authority aforesaid, That all Subscriptions hereafter to be had or made unto the said Articles by any Deacon, Priest, or Ecclesiastical person, or other person whatsoever, who by this Act or any other Law now in force is required to subscribe unto the said Articles, shall be construed, and taken to extend, and shall be applied (for and touching the said Six and thirtieth Article) unto the Book containing the Form and Manner of Making, Ordaining, and Consecrating of Bishops, Priests, and Deacons, in this Act mentioned, in such sort and manner as the same did heretofore extend unto the Book set forth in the time of *Edward* the Sixth, mentioned in the said Sixth and thirtieth Article ; any thing in the said Article, or in any Statute, Act or Canon heretofore had or made, to the contrary thereof in anywise notwithstanding."*

* The Provisions of the Irish Act of Uniformity, 17 & 18 Charles II. c. 6., are similar to the above.

1 Will. & Mary, c. 8. s. 11.

It is enacted by Stat. 1 Will. & Mary, c. 8. sect. 11—"That so much of the Declaration prescribed by the 9th Section of the Act of Uniformity, as is expressed in these words, viz. 'I, A.B., declare that it is not lawful 'upon any Pretence whatsoever to take Arms against 'the King; and that I do abhor that traitorous 'position of taking Arms by his Authority against his 'Person, or against those that are commissioned by 'him,' shall not from henceforth be required or enjoined."

C.

Thirty-sixth, Thirty-seventh, and Thirty-eighth English Canons.

Canon 36.—"*Subscription required of such as are to be made Ministers.*

"No person shall hereafter be received into the Ministry, nor either by institution or collation admitted to any Ecclesiastical Living, nor suffered to preach, to catechize, or to be a Lecturer or Reader of Divinity, in either University, or in any Cathedral or Collegiate Church, City, or Market-town, Parish Church, Chapel, or in any other place within this realm, except he be licensed either by the Archbishop, or by the Bishop of the Diocese, where he is to be placed, under their hands and seals, or by one of the two Universities under their seal likewise; and except he shall first subscribe to these three Articles following in such manner and sort as we have here appointed.

"I. That the King's Majesty, under God, is the only Supreme Governor of this Realm, and of all other His Highness's dominions and countries, as well in all Spiritual or Ecclesiastical things or causes as temporal; and that no foreign prince, person, prelate, state, or potentate hath or ought to have any jurisdiction, power, superiority, pre-eminence, or authority, Ecclesiastical or Spiritual, within His Majesty's said realms, dominions, and countries.

"II. That the Book of Common Prayer, and of Ordering of Bishops, Priests and Deacons, containeth in it nothing contrary to the Word of God, and that it may lawfully so be used; and that he himself will use the form in the said Book prescribed, in public Prayer, and Administration of the Sacraments, and none other.

"III. That he alloweth the Book of Articles of Religion agreed upon by the Archbishops and Bishops of both provinces, and the whole Clergy in the Convocation holden at London in the year of our Lord God one thousand five hundred sixty and two; and that he acknowledgeth all and every the Articles therein contained, being in number nine and thirty, besides the ratification, to be agreeable to the Word of God.

"To these three Articles whosoever will subscribe, he shall, for the avoiding of all ambiguities, subscribe in this order and form of words, setting down both his Christian and Surname, viz., *I*, N.N, *do willingly and* ex animo *subscribe to these three Articles above mentioned, and to all things that are contained in them.* And if any Bishop shall ordain, admit, or license any as is aforesaid, except he first have subscribed in manner and form as here we have appointed he shall be suspended from giving of orders and licences to preach for the space of twelve months. But if either of the Universities shall offend therein, we leave them to the danger of the law and His Majesty's censure.".

Canon 37.—"*Subscription before the Diocesan,*

"None licensed, as is aforesaid, to preach, read, lecture, or catechize, coming to reside in any diocese, shall be permitted there to preach, read, lecture, catechize, or minister the Sacraments, or to execute any other Ecclesiastical function, by what authority soever he be thereunto admitted, unless he first consent and subscribe to the three Articles before mentioned in the presence of the Bishop of the Diocese wherein he is to preach, read, lecture, catechize, or administer the Sacraments, as aforesaid."

Canon 38.—"*Revolters after Subscription censured.*

"If any Minister, after he hath once subscribed to the three said Articles, shall omit to use the Form of Prayer or any of the Orders or Ceremonies prescribed in the Communion Book, let him be suspended; and if after a month he do not reform and submit himself, let him be excommunicated; and then if he shall not submit himself within the space of another month, let him be deposed from the Ministry."

D.

Extracts from the 32nd Irish Canon; and the first four Irish Canons.

32nd (Irish) Canon.—The Examination of such as are to be made Ministers.

". . . . . Neither shall any person be received into the Ministry, nor admitted to any Ecclesiastical Living, nor permitted to preach, read, lecture, catechize, or minister the Sacraments, except he shall first by subscription declare his consent to the first four Canons of this present Synod, and everything contained therein."

1st (Irish) Canon.—Of the agreement of the Church of England and Ireland in the profession of the same Christian Religion.

"For the manifestation of our agreement with the Church of *England*, in the confession of the same Christian faith, and the doctrine of the Sacraments: We do receive and approve the Book of Articles of Religion agreed upon by the Archbishops and Bishops and the whole Clergy in the Convocation holden at *London* in the year of our Lord 1562, for the avoiding of diversities of opinions, and for the establishing of consent touching true Religion. And therefore if any hereafter shall affirm that any of those articles are in any part superstitious or erroneous, or such as he may not with a good conscience subscribe unto, let him be excommunicated, and not absolved before he make a public revocation of his error."

2nd (Irish) Canon.—The King's supremacy in causes Ecclesiastical to be maintained.

"All Ecclesiastical Persons having Cure of Souls, and all other Preachers and Readers of Divinity Lectures, shall to the utmost of their wit, knowledge, and learning, purely and sincerely (without any colour or dissimulation) teach, manifest, open and declare, four times every year (at the least) in their Sermons, and other Collations and Lectures, That all usurped and foreign power (forasmuch as the same hath no establishment nor ground by the law of God) is for most just causes taken away and abolished; and that therefore no manner of obedience or subjection within His Majesty's realms and dominions is due unto such foreign power; but that the King's power within his realm of *Ireland*, and all other his dominions and countries is the highest power under God, to whom all men, as well as inhabitants as born within the same, do by God's laws owe all loyalty and obedience, and to no other foreign power and potentate in the earth. And whosoever shall hereafter maintain that the King's Majesty hath not the same authority in causes Ecclesiastical, that the godly kings had among the Jews and Christian Emperors in the primitive Church, or impeach in any part his regal supremacy in the said causes restored to the Crown, and by the laws of this realm therein established, let him be excommunicated, and not restored but only by the Archbishop of the province, after his repentance and public revocation of his error.

3rd (Irish) Canon.—Of the prescript Forms of Divine Service contained in the Book of Common Prayer.

"That form of Liturgy or Divine Service, and no other, shall be used in any Church of this realm but that which is established by the law, and comprised in

the Book of Common Prayer and administration of Sacraments. And if any one shall preach, or by other open words declare or speak anything in the derogation or despising of the said Book, or of anything therein contained, let him be excommunicated, and not restored until he repent and publicly revoke his error."

4th (Irish) Canon.—Of the Form of Consecrating and Ordering Archbishops, Bishops, &c., and of the Churches established according to that Order.

"That form of Ordination, and no other, shall be used in this Church but that which is contained in the Book of Ordering Bishops, Priests, and Deacons, allowed by authority, and hitherto practised in the Churches of *England* and *Ireland*. And if any shall affirm that they who are consecrated or ordered according to those rites are not lawfully made, nor ought to be accounted either Bishops, Priests, or Deacons; or shall deny that the Churches established under this Government are true Churches, or refuse to join with them in Christian profession, let him be excommunicated, and not restored until he repent and publicly revoke his error."

APPENDIX No. 2.

Allegiance and Supremacy.

E.

Eliz. c. 1. EXTRACTS from Stat. 1 Eliz. c. 1., "An Act to "restore to the Crown the ancient Jurisdic- "tion over the Estate Ecclesiastical and "Spiritual, and abolishing all Foreign Powers "repugnant to the same."

Sect. 22. "That all and every person and persons that at any time hereafter shall be preferred, promoted, or collated to any Archbishoprick or Bishoprick, or to any other Spiritual or Ecclesiastical Benefice, Promotion, Dignity, Office, or Ministry, or that shall be by Your Highness, Your heirs or successors, preferred or promoted to any Temporal or Lay Office, Ministry, or Service within this realm, or in any Your Highness's dominions, before he or they shall take upon him or them to receive, use, exercise, supply, or occupy any such Archbishoprick, Bishoprick, Promotion, Dignity, Office, Ministry, or Service, shall likewise make, take, and receive the said Corporal Oath before mentioned."

The oath referred to is the oath of supremacy given in the 19th section of the Act, for which other oaths of allegiance and supremacy were substituted by 1 Will. & Mary, c. 8. ss. 2 and 12.* These oaths are now as follows :—

The Oath of Allegiance.†

"I, A.B., do sincerely promise and swear, That I will be faithful and bear true allegiance to Her Majesty Queen Victoria. So help me God."

The Oath of Supremacy.

"I, A.B., do swear, That I do from my heart abhor detest, and abjure as impious and heretical, that damnable doctrine and position that princes excommunicated or deposed by the pope, or any authority of the see of Rome, may be deposed or murdered by their subjects, or any other whatsoever. And I do declare that no foreign prince, person, prelate, state, or potentate hath or ought to have any jurisdiction, power, superiority, pre-eminence, or authority, Ecclesiastical or Spiritual, within this realm. So help me God."

F.

1 Geo. 1. at. 2. c. 13 Geo. 2. 26. EXTRACTS from Stat. Geo. I. stat. 2. c. 13., "An "Act for the further Security of His "Majesty's Person and Government," &c., as amended by the 9 Geo. II. c. 26. s. 3.

"That all and every person and persons that shall be admitted, entered, placed, or taken into any office or offices, civil or military, or shall receive any salary, fee, or wages by reason of any patent or grant from His Majesty, His heirs or successors," . . . . "and all Ecclesiastical persons, Heads or Governors, of what denomination soever, and all other members of Colleges and Halls in any University, that are or shall be of the Foundation, or that do or shall enjoy any Exhibition, being of, or as soon as they shall attain the age of 18 years, and all persons teaching or reading to pupils in any University, or elsewhere, and all Schoolmasters and Ushers, and all Preachers and teachers of separate congregations" . . . "who shall at any time after the tenth day of August 1715, be admitted into, or enter upon any of the beforementioned preferments, benefices, offices, or places, or shall come into any such capacity, or shall take upon him or them any such practice, employment, or business as aforesaid, shall take and subscribe the oaths" of Allegiance, Supremacy, and Abjuration appointed by Stat. 1 Geo. I. stat. 2. cap. 13, "in such form as by that Statute is directed, in His Majesty's Court of Chancery, King's Bench, Common Pleas, or Exchequer, or at the General or Quarter Sessions of the county, city, or place where such person shall be or reside, at any time within six calendar months after he or they shall be admitted into, or enter upon any such preferment, benefice, office, or place, or come into such capacity, or take upon him or them such practice, employment, or business as aforesaid."

The oaths appointed by the 1st Geo. I. stat. 2. c. 13. were altered by subsequent Acts, and it was ultimately enacted by the 21st & 22d Vict. c. 48. (1858) "An "Act to substitute one Oath for the Oaths of Alle- "giance, Supremacy, and Abjuration, &c.," as follows :— 21 & 22 Vict. c. 48.

Sect. 1. "Instead of the Oaths of Allegiance, Supremacy, and Abjuration, where the same are now by law required to be taken, and taken and subscribed respectively, the following Oath shall be taken and subscribed :—

"I, A.B., do swear that I will be faithful and bear true allegiance to Her Majesty Queen Victoria, and will defend Her to the utmost of my power against all conspiracies and attempts whatever which shall be made against Her person, crown, or dignity; and I will do my utmost endeavour to disclose and make known to Her Majesty, Her heirs and successors, all treasons and traitorous conspiracies which may be formed against Her or them. And I do faithfully promise to maintain, support, and defend to the utmost of my power, the succession of the Crown, which succession by an Act intituled 'An Act for the further Limitation of the Crown, and better securing the Rights and Liberties of the Subject,' is and stands limited to the Princess Sophia, Electress of Hanover, and the heirs of Her body being Protestants, hereby utterly renouncing and abjuring any obedience or allegiance unto any other person claiming or pretending a right to the Crown of this Realm. And I do declare that no foreign Prince, Person, Prelate,

* The Provisions of the Acts 2 Eliz. c. 1. and 3 Will. & Mary, c. 2., which relate to Ireland, are similar to those of the Acts above mentioned; the Act 3 Will. & Mary, c. 2., requiring in addition the declaration against transubstantiation stated in the Report.

† By 24 Geo. 3. sess. 2. c. 35, persons "subjects or citizens "of countries out of His Majesty's dominions," may be ordained without taking the oath of allegiance; but if so ordained only, cannot exercise their office within those dominions.

State, or Potentate hath, or ought to have, any jurisdiction, power, superiority, pre-eminence, or authority, Ecclesiastical or Spiritual, within this Realm. And I make this declaration upon the true faith of a Christian. So help me God."

Sect. 3. "The Oath hereby appointed shall be taken and subscribed in the same cases, and by and before the same persons, and at the same times and places, as the Oaths of Allegiance, Supremacy, and Abjuration are respectively now directed to be taken, and taken and subscribed; and the taking and subscribing of the Oath hereby appointed shall have the like effect as the taking, and taking and subscribing respectively of the Oaths of Allegiance, Supremacy, and Abjuration would have had if this Act had not been passed; and the refusal, neglect, or omission to take and subscribe the Oath hereby appointed shall be attended with the like disabilities, incapacities, penalties, liabilities, and consequences as now by Law provided in the case of refusal, neglect, or omission to take, or take and subscribe respectively the Oaths of Allegiance, Supremacy, and Abjuration; and all provisions now in force shall be construed and take effect accordingly: Provided always, that no person, having before the commencement of this Act taken the Oaths of Allegiance, Supremacy, and Abjuration, shall be required to take and subscribe the Oath hereby appointed, unless and until he would be by Law required to take the said Oaths of Allegiance, Supremacy, and Abjuration in case this Act had not been passed."

APPENDIX No. 3.

Stipends of Curates.

G.

Extract from Stat. 1 & 2 Vict. c. 106., "An "Act to abridge the holding of Benefices "in Plurality, and to make better Pro- "vision for the Residence of the Clergy."

Sect. 81. . . . . "In every case in which application shall be made to any Bishop for a license for any Stipendiary Curate to serve in any Benefice, whether the Incumbent be resident or non-resident, such Bishop shall also require a declaration in writing to be made and subscribed by the Incumbent and the Curate, to the purport and effect that the one *bonâ fide* intends to pay, and the other *bonâ fide* intends to receive, the whole annual stipend mentioned in such statement, without any abatement in respect of rent or consideration for the use of the glebe house, and without any other deduction or reservation whatsoever."

APPENDIX No. 4.

Simony.

H.

Fortieth English Canon.

Canon 40. "*An Oath against Simony at Institution into Benefices.*

"To avoid the detestable sin of Simony, because buying and selling of Spiritual and Ecclesiastical functions, offices, promotions, dignities, and livings, is execrable before God; therefore the Archbishop, and all and every Bishop or Bishops, and any other person or persons, having authority to admit, institute, collate, instal, or to confirm the election of any Archbishop, Bishop, or other person or persons, to any Spiritual or Ecclesiastical function, dignity, promotion, title, office, jurisdiction, place or benefice with cure or without cure, or to any Ecclesiastical living whatsoever, shall, before every such admission, institution, collation, installation, or confirmation of election, respectively minister to every person hereafter to be admitted, instituted, collated, installed, or confirmed in or to any Archbishopric, Bishopric, or other Spiritual or Ecclesiastical function, dignity, promotion, title, office, jurisdiction, place, or benefice, with cure or without cure, or in or to any Ecclesiastical living whatsoever, this oath, in manner and form following, the same to be taken by every one whom it concerneth in his own person, and not by a Proctor: *I*, N.N., *do swear, That I have made no simoniacal payment, contract, or promise, directly or indirectly, by myself, or by any other to my knowledge, or with my consent, to any person or persons whatsoever, for or concerning the procuring and obtaining of this Ecclesiastical dignity, place, preferment office, or living,* (respectively and particularly naming the same whereunto he is to be admitted, instituted, collated, installed, or confirmed,) *nor will at any time hereafter perform or satisfy any such kind of payment, contract or promise, made by any other without my knowledge or consent: So help me God through Jesus Christ.*"

I.

Extract from 35th Irish Canon.

The 35th Irish Canon is the same as the 40th English Canon, except that the following words are added:—

"And for the better suppressing of this cursed abuse, we ordain and appoint, that if any clerk, or any other, with his consent, shall seal any bond or bill to any person or persons, with condition of resignation of his benefice, whereto he is to be, or hath been presented, or shall make or covenant to make any lease of the profits of the said benefice or any part thereof unto the patron, or any belonging to him, or any other person to his or their use, to continue during his incumbency, or for above three years, or with notable diminution of the rent under the true value, he shall be holden for convict of Simony, and proceeded against according to the severity of the ancient Canons in that behalf."

APPENDIX No. 5.

Oath to keep of School—(Ireland).

J.

Extracts from Stat. 28. Hen. VIII. cap. 15., "An Act for the English order, habit, and "language."

28 Henry VIII. c. 15. (Ir).

"Sect. 9. And further be it enacted by Authority aforesaid, that every Archbishop, Bishop, Suffragan, and every other having authority and power to give order of Priesthood, Deacon, and Sub-deacon, shall at such time as they or any of them do give to any person or persons any of the said orders of Priesthood, Deacon, or Sub-deacon, give unto every Person taking any of the said orders of Priesthood, Deacon, or Sub-Deacon a Corporal Oath that he or they so taking

order as aforesaid shall, to the uttermost of his power, wit, and cunning, endeavour himself to learn the English tongue and language, and use English order and fashions, if he may learn and attain the same by possibility, in such place and places where his cure or dwelling shall be; and further shall endeavour himself to move, endoctrine, and teach all other being under his order, rule, and governance to accomplish and perform the same, and that also every such Archbishop, Bishop, Suffragan, Archdeacon, Commissary, and other having Power and Authority to admit, install, collate, institute, or induct any person or persons to any dignity, benefice, office, or promotion spiritual, as is aforesaid," (*i.e.*, which paid first fruits, *vid. inf.*) "shall at the time of the admission, institution, installation, collation, and induction of such person and persons to any dignity, benefice, office, or promotion spiritual, give unto the said person and persons so admitted, instituted, installed, collated or inducted, a Corporal Oath, that he and they so being admitted, instituted, installed, collated, or inducted, shall to his wit and cunning endeavour himself to learn, instruct, and teach the English tongue to all and every being under his rule, cure, order, or governance, and likewise shall bid the beads in the English tongue and preach the Word of God in English, if he can preach, and also for his own part shall use and exercise the English order and habit, and also provoke as many as he may to the same, and also shall keep or cause to be kept within the place, territory, or parish, where he shall have pre-eminence, rule, benefice, or promotion, a school for to learn English, if any children of his parish come to him to learn the same, taking for the keeping of the said school such convenient stipend or salary as in the said land is accustomably used to be taken."

The Act goes on to provide that this oath is to be administered on pain of 3*l.* 6*s.* 8*d.*, and to be observed on pain of 6*s.* 8*d.* for the first offence, 20*s.* for the second, and the benefice to be void for the third.

The words "any dignity, benefice, office, or promotion spiritual, *as is aforesaid*," must be taken in connection with the 7th section of the Act which refers to any "dignity, benefice, office, or promotion "spiritual within this land of Ireland, under the King "our Sovereign Lord's obedience, tuition, and gover- "nance, leviable or chargeable with payments of the "first fruits to the King's Highness."

The first part of the above section is considered to be obsolete, and the oath required by it is no longer administered.

The form of the oath now administered, under the latter part of the section, in the Diocese of Meath is that given in the Report, viz :—

"I, A.B., do swear that I will instruct, or cause to be instructed by a Deputy, the children of my parish in the English tongue, according as the law directs."

The form in use in the Diocese of Armagh is as follows :—

"I, A.B., do solemnly swear that I will teach or cause to be taught an English school within the said (Vicarage or Rectory) of as the law in that case requires."

APPENDIX No. 6.

K.

TABLE comparing the Requirements in

ENGLAND	and	IRELAND.
1. To subscribe the 39 Articles of Religion. 13 Eliz. c. 12. (England.)		1. Not required in Ireland *under any Statute.*
2. To subscribe to the Three Articles of the 36th Canon, relating to— *a.* The Royal Supremacy. *b.* The Book of Common Prayer and of Ordering of Bishops, Priests, and Deacons. *c.* The Thirty-nine Articles.		2. To subscribe the first four Irish Canons, relating to— *a.* The Thirty-nine Articles. *b.* The Royal Supremacy. *c.* The Book of Common Prayer. *d.* The Book of Ordering of Bishops, Priests, and Deacons.
3. To take the Oath of Allegiance and the Oath of Supremacy. 1 Eliz. c. 1., and 1 Will. & Mary, c. 8.		3. To take and subscribe the Oath prescribed by the 21 & 22 Vict. c. 48., instead of the Oaths of Allegiance and Supremacy required by the 3 Will. & Mary, c. 2.
4. To make and subscribe a Declaration as to the stipend to be received by a stipendiary Curate.		4. Not required in Ireland.
5. To take the Oath of Canonical Obedience.		5. To take the Oath of Canonical Obedience, which is almost the same as in England.
6. To subscribe to a Declaration of Conformity to the Liturgy. 13 & 14 Car. 2. c. 4. s. 6.		6. Same as in England. 17 & 18 Car. 2. c. 6. s. 6.
7. To read publicly in Church the Bishop's Certificate that the Declaration of Conformity to the Liturgy has been made and the Declaration itself. 13 & 14 Car. 2. c. 4. s. 7.		7. Same as in England. 17 & 18 Car. 2. c. 6. s. 6.
8. To read publicly in Church the Thirty-nine Articles with a declaration of unfeigned assent to the same. 13 Eliz. c. 12. s. 3.		8. Not required in Ireland.
9. To read publicly in Church the Morning and Evening Prayers, with a declaration of unfeigned assent and consent to all and every thing contained and prescribed in and by the Book of Common Prayer. 13 & 14 Car. 2. c. 4. s. 4.		9. Same as in England. 17 & 18 Car. 2. c. 6. s. 3.
10. To take the Oath against Simony required by the 40th Canon.		10. Same as in England. 35th Irish Canon.
11. To read before the Bishop the Thirty-nine Articles, with declaration of unfeigned assent to the same. 13 & 14 Car. 2. c. 4. s. 15.		11. Same as in England. 17 & 18 Car. 2. c. 6. s. 13.

England.	Ireland.
12. To read publicly in Church on the first lecture day of every month, the Morning and Evening Prayers, with declaration, &c., &c., &c. 13 & 14 Car. 2. c. 4. s. 15.	12. Same as in England. 17 & 18 Car. 2. c. 6 s. 13.
13. To take and subscribe in one of the Superior Courts at Westminster, or at Quarter Sessions, the Oath substituted by the 21 & 22 Vict. c. 48., for the Oaths of Allegiance, Supremacy, and Abjuration, required by 1 Geo. 1. Stat. 2. c. 13, and 6 Geo. 3. c. 53.	13. To take and subscribe the same Oath in one of the Superior Courts in Dublin, or at Quarter Sessions.
14. Not required in England.	There is further required in Ireland: 14. To make and subscribe the Declaration against Transubstantiation, &c., required by 3 Will. & Mary, c. 2. s. 4.
15. Not required in England.	15. In the case of institution, &c. to a benefice which paid first fruits, to take the Oath required by 28 Hen. 8. c. 15. (Ireland).

APPENDIX No. 7.

L.

[*The following paper, by a member of the Commission (Mr. Walpole) is subjoined, for the sake of much valuable information which it contains.*]

Before the Commissioners proceed to settle their Report, it may be convenient to have before them a succinct, but detailed, narrative of the circumstances which have led to the different forms of Clerical Subscription, in order that they may judge whether such forms should still be retained, or how far, and to what extent, they may best be altered and simplified. With that view the following paper is now submitted to them for their consideration:—

II. The tests imposed on the Clergy in England are in some respects different from those imposed on the Clergy in Ireland. It may therefore be convenient to consider them separately as regards their details; though the general reasons for which they were introduced, and the general form in which they have been drawn up, are substantially the same in both countries.

CLERICAL OATHS, SUBSCRIPTIONS AND DECLARATION IN ENGLAND.

III. Strictly speaking, it does not appear that any test was required from the Clergy in England before the Reformation, and the only oaths imposed upon them were the oath against Simony and the oath of canonical obedience. The oath against Simony was not an oath for testing opinion. The oath of canonical obedience as originally framed in its Latin form was as follows:—"Ego, A.B., præstabo veram "et canonicam obedientiam Episcopo ejusque suc- "cessoribus in omnibus licitis et honestis.(1) Sic me "Deus adjuvet." As administered at the present day, in its English form, it runs thus:—"I, A.B., clerk, "do swear that I will pay true and canonical obe- "dience to the Lord Bishop of C. and his successors "in all things lawful and honest." This was the only oath taken by the Clergy for enforcing discipline according to the doctrines held by the Church before the Reformation. But since the Bishop to whom obedience was promised had himself taken an oath both to the Pope and also the King, the ecclesiastical as well as the temporal authority was made complete over the whole body of the Clergy according to the then existing laws. For by the former oath the Bishop had pledged himself to keep, and *to cause to be kept by others*, all the rules of the Holy Fathers, and the degrees, ordinances, sentences, dispositions, reservations, provisions, and commandments apostolic; and he renounced by he latter oath everything which could be prejudicial to the King or his successors, and the dignity, privilege, and estate royal. (2) Thus, as far as the Clergy were concerned, the joint action of the Ecclesiastical and Temporal authorities was amply sufficient to secure uniformity; and in fact subscription was neither necessary nor required, except perhaps for the purpose of detecting a supposed heresy or schism. So matters continued until the Reformation.

IV. There are four remarkable periods in English history when clerical subscriptions and oaths have been either dealt with, or intended to be dealt with, by public authority,—

1st. At the time of the Reformation.
2nd. The accession of James I. to the throne of England.
3rd. The Restoration; and,
4th. The Revolution of 1688.

Clerical Oaths at the Time of the Reformation.

V. 1. At the time of the Reformation three things were deemed essential for ensuring the success of that great movement:—1stly, that the ancient supremacy of the Crown should be maintained; 2ndly, that a set form of public worship should be prescribed; and, 3rdly, that the doctrines of the Reformed Church should be clearly defined. Each of these matters became the subject of statutory enactments, and ultimately also of subscription and declaration.

V. 2. The supremacy of the Crown was enforced by various Statutes, and it was also enforced by oath. By the 28th Hen. VIII. c. 10, and the 35th Hen. VIII. c. 3, the one being "An Act for extinguishing "the Authority of the Bishop of Rome," and the other "An Act for the Ratification of the King's "Majesty's Style," it was made high treason for any ecclesiastical person to refuse to take the Oath of Supremacy as therein enjoined. Those Statutes were subsequently repealed in the reign of Philip and Mary, but on the accession of Queen Elizabeth another Act was passed for restoring to the Crown the ancient jurisdiction over the estate ecclesiastical and spiritual, and by that Act a new Oath of Supremacy was once more enjoined, the penalty for refusal being mitigated from high treason to the loss of promotion, benefice, or office. As soon as the Book for Ordering Bishops, Priests, and Deacons was framed, these oaths were included and incorporated in the Ordination Service, and in that service they assumed the form which from time to time has been laid down by the Legislature. Thus, in the second Prayer Book of Edward VI., A.D. 1552, the Oath of Sovereignty was in the form laid down by the 28th Hen. VIII. c. 10, and in the first Common Prayer Book of Queen Elizabeth, A.D. 1559,

(1) This is the form in Gibson's Codex; but Bishop Hall says that the oath ran thus, "In omnibus licitis et honestis *mandatis*." (See Works, Vol. x. 349.)

(2) See App. M. for the form of these oaths.

it was in the form laid down by the 1st Elizabeth c. 1. The last form of oath was continued in the Common Prayer Book of 1662. But it was altered again soon after the Revolution, when new Oaths of Allegiance and Supremacy ([3]) were substituted in lieu of the old one. The actual authority by which this substitution was made in the Prayer Book does not appear; and there is some doubt as to what is the oath now required, since the recent Statute ([4]) has supplied a new form of oath "instead of the Oaths "of Allegiance, Supremacy, and Abjuration." But as the Act of the Queen applies, in terms, to those cases only in which the Oaths of Allegiance, Supremacy, and Abjuration were jointly required, it has been considered in England that the new oath does not supersede the oaths prescribed by the Acts of 1 Eliz. c. 1, and 1 Will. and Mary, c. 8, which Acts were confined to the Oaths of Allegiance and Supremacy only, and did not include the Oath of Abjuration. In Ireland a different construction has been put on this Statute.

Clerical Subscriptions and Declarations at the Time of the Reformation.

VI. The form of Common, Public, or Open Prayer, (all these names have been indiscriminately applied to that which is now known as the Book of Common Prayer) was regulated at the time of the Reformation by the 2nd & 3rd Edward VI. c. 1, the 5th & 6th Edward VI. c. 1, and the 1st Elizabeth, c. 2. ([5]) In the preamble to the first of these Statutes the reasons for prescribing a set form of prayer are assigned at length. It is there stated that the service of the Church had for a long time been according to the use of Sarum, York, Bangor, and Lincoln ([6]); that of late much more divers and sundry forms and fashions, with divers and sundry rites and ceremonies, had been used in the cathedral and parish churches of England and Wales; that the new rites and innovations had given offence; that attempts had been made unsuccessfully to stay such innovations and new rites, and that to the intent of establishing a quiet and godly order, and having as well eye and respect to the most sincere and pure Christian religion taught by the Scriptures as to the usages of the primitive Church, all the ministers of every cathedral and parish church were to be bound to use the Common and Open Prayer set forth by the Bishops and other learned men of this realm "in such order and "form as is mentioned in the same book, and none "other or otherwise." No subscription was enforced either by this Statute or by the subsequent Statute of Elizabeth, but the use of the book was enjoined by penalties of forfeiture, deprivation, and imprisonment, varying in degree according as the offence was the first, second, or third. At the same time, although no subscription was enforced by Statute, it must not be forgotten that a declaration of faith was drawn up which the clergy were obliged by their Bishops to read publicly ([7]) on entering their cures; and according to the advertisements issued by the Commissioners in Causes Ecclesiastical, A.D. 1564, with Archbishop Parker at their head, certain protestations ([8]) are added thereto, which were required to be made promised, and subscribed "by them that shall here- "after be admitted to any office or cure in any church "or other place ecclesiastical." Among these protestations are some which amount in fact to a complete subscription of consent, conformity, and assent to the Book of Common Prayer. Thus there is a promise on the part of the clergyman that he will not preach or publicly interpret, but only read that which is appointed by public authority, without special licence of the Bishop under his seal, and there is another protestation which requires them to say "I do also faith- "fully promise in my person to use and exercise my "office and place to the honor of God, to the quiet of "the Queen's subjects within my charge in truth, "concord, and unity; and also to observe, keep, and "maintain such order and uniformity in all external "policies, rites, and ceremonies of the Church as by "the laws, good usages, and orders are already well "provided and established." Still it ought to be observed that these advertisements and protestations rested solely on the authority of Archbishop Parker and the other Bishops. They were not confirmed by Act of Parliament; nor were they passed in Convocation; nor were they published by the Queen in Council. In fact the Queen refused to ratify them, telling the Bishops that the oath of canonical obedience was sufficient to bind the inferior clergy to their duty, without the interference of the ([9]) Crown.

VI. 2. Subscription to the articles seems always to have been intended, but it was not enforced by the authority of Parliament till A.D. 1571. Even as early as the reign of Edward VI. a letter was addressed to the six royal chaplains, directing them to consider certain articles "exhibited to the King's Majesty" (these were the articles then entitled "Articles con- "cerning an Uniformity in Religion") "to be sub- "scribed by all such as shall be admitted to be "preachers or ministers in any part of the realm" ([10]). After a further scrutiny on the part of the archbishop, in which the articles received "the last "corrections of his judgment and his pen," he sent them to the King's council with a request "that "all the bishops may have authority from him to "cause all their preachers, archdeacons, deans, pre- "benderies, parsons, vicars, curates, with all their "clergy to subscribe the said articles." ([11]) A Royal Mandate was issued to that effect; but it was of no avail, for Edward VI.'s days were nearly numbered. Upon the accession of Mary reaction commenced; and so no subscription to either these or any other articles could then be enforced. When Elizabeth succeeded, the articles of Edward VI.'s time were again revised, and they were finally settled in A.D. 1562, possibly with a few additional ([12]) touches added in the Convocation which was held in A.D. 1571. On the last-mentioned occasion there can hardly be a doubt that the Church and the Queen were alike anxious to avoid as much as possible Parliamentary interference in religious matters. The Legislature, however, especially the House of Commons, had, so far as doctrine was concerned, for some time endeavoured to exact subscription from the clergy; and they eventually succeeded when the Act of the 13th Elizabeth, c. 12, was passed, entitled "An Act for the Ministers of the

([3]) See App. N. for all these different forms of oaths.

([4]) 21 & 22 Vict. c. 48.

([5]) These three Acts are set out at length in App. O., P., and Q. By the 20th section of the Act of Uniformity they are all of them kept in force.

([6]) The Salisbury use was followed by almost the whole of the province of Canterbury, Gib. Codex 259, ed. 1761. In the northern province the use of York was generally observed; in South Wales the use of Hereford; in North Wales, the use of Bangor. (See Ayton, Parerg. 356, quoted in Burns' Eccl. Law, by R. Phillimore, vol. iii. p. 439–440.)

([7]) Neale's History of the Puritans, Vol. 1. p. 109.

([8]) See Cardwell's Documentary Annals of the Church of England, No. LXIV., Vol. i. p. 321; and see Appendix R., where the advertisements are given. Fuller says, under date A.D. 1565, "The English Bishops conceiving themselves em- "powered by their Canons, began to show their authority in "urging the clergy of their dioceses to subscribe to the cere- "monies, liturgies, and discipline of the Church, and such as "refused the same were branded with the odious name of "Puritans." (Ch. Hist., B. ix. p. 76).

([9]) For the Queen's refusal to ratify these advertisements, see note to Appendix R., p. 42, and Neale's Hist. of the Puritans, pp. 136, 137.

([10]) See Hardwick's History of the Articles of Religion, p. 74, quoting MS. Council Register, Vol. iii. p. 614.

([11]). See Hardwick, *ut supra*, and Strype's Cranmer, App. No. LXIV.

([12]) It is unnecessary to enter here into the controversy whether the first part of the XXth Article, namely, "The Church has "power to decree rites and ceremonies, and authority in matters "of faith," was, in point of fact, incorporated into that article when it passed Convocation. For there can be no doubt that it has formed part of all the articles printed by authority since the year 1572. Those who are curious on this subject may consult Fuller's Ch. Hist. B. ix. p. 74. Neale's History of the Puritans, Vol. i. pp. 119, 120. Hardwick's History of the Articles, p. 143–147.

"Church to be of sound Religion." By that Act it was enacted, "in order that the churches of the "Queen's Majesty's dominions might be served with "pastors of sound religion;" that every minister under the degree of "a bishop should declare his "assent and subscribe to all the Articles of Re- "ligion which only concern the confession of the "true Christian faith and the doctrine of the sacra- "ments, and should bring from such bishop or "guardian of spiritualities, in writing under his seal "authentic, a testimonial of such assent and sub- "scription, and openly on some Sunday, in the time "of the public service afore noon, in every church "where, by reason of any Ecclesiastical living, he "ought to attend, read both the said testimonial and the "said articles, upon pain" that every such person who should not do as was above appointed should be *ipso facto* deprived, and all his Ecclesiastical promotions should be void as if he then were naturally dead. By the 2nd section of the same Act it was further enacted "that no person should hereafter be admitted to any "benefice with cure except he should first have sub- "scribed the said articles in the presence of the "ordinary, and publicly read the same in the parish "church of that benefice, with declaration of his "unfeigned assent to the same." And by the 5th section none can be made minister "unless he first "bring to the Bishop a testimonial both of his honest "life and of his professing the doctrine expressed in "the said articles, nor unless he be able to answer "and render to the ordinary an account of his faith, "in Latin, according to the said articles, nor can he "be admitted to the order of deacon or minister "unless he shall first subscribe to the said articles."

VI. 3. What the articles are to which subscription was required by this Act has been the subject of much discussion. Some writers have contended that the words, "which only concern the confession of the "true Christian faith and the doctrine of the Sacra- "ments," in the first section of the Act, are not designed to be restrictive ([13]) but demonstrative, declaring generally the nature of the subjects handled in the articles; that is to say, in other words, that they all concern the true Christian faith and doctrine of the Sacraments. But this was not the opinion of the time. More than once in the House of Commons a contrary view was expressed and assumed; and according to Selden ([14]), the clergy, by Act of Parliament, "ought only to subscribe to those articles "which contain matters of faith and the doctrine of "the Sacraments, as appears by the first subscrip- "tions." However that may be, the question, to a certain extent, was practically set at rest by Archbishop Whitgift in 1583–4; for in those years that indefatigable Primate issued his memorable articles ([15]) "touching preachers and other orders for the Church;" and by those articles all persons who were admitted to the cure of souls, or who were licensed to preach, catechise, minister the Sacraments, or execute any other ecclesiastical function, were first to subscribe the three articles which are now embodied in the thirty-sixth canon, that is to say, to the Queen's supremacy, to the Book of Common Prayer, and to all the Thirty-nine Articles of Religion.

VII. Thus was incorporated in one injunction without the authority either of Convocation or of Parliament, but probably by the Queen with the advice of Her Council, the necessity of subscribing to the Crown's supremacy, the Book of Common Prayer and of Ordering of Bishops, Priests, and Deacons, and the Book of Articles of Religion *being in number nine and thirty*. The question of subscription was settled as far as Archbishop Whitgift could settle it; but great offence was taken, particularly at the mode in which this was done; and the observance of the injunction depended on the laxity or stringency with which it was enforced by different Bishops. The controversy upon the subject was fierce and long. Some Bishops insisted on exact compliance; others winked at the neglect of their clergy. Lord Burleigh himself remonstrated with the Archbishop on pushing the matter to too great an extreme. The Archbishop ([16]) replied that he would not touch any for not subscribing only, but for breach of order in celebrating Divine Service, administering the Sacraments, and executing other ecclesiastical functions, according to their fancies and not accroding to the form by law prescribed. So the matter went on during the remainder of the Queen's reign; until at last, according to the testimony of contemporary authors, the brethren on the one side became so wilful, and the authorities on the other became so negligent, that the object of subscription was well nigh defeated. "The Brethren," says Rogers (for so did they now style themselves,) "in their Churches and charges would neither pray, "nor say service, nor baptize, nor celebrate the "Lord's Supper, nor do any other ecclesiastical duty "according to law, but after their own devisings." And in A.D. 1593, Bishop Bancroft wrote thus, "How carelessly subscription is executed in England "I am ashamed to report. Such is the retchlessness "of many of our Bishops on the one side, and their "desire to be at ease and quietness over their own "affairs, and on the other side such is the obstinacy "and intolerable pride of that factious sort, *as that "betwixt both sides subscription is not at all re- "quired, or if it be, the Bishops admit them so to "qualify that it were better to be omitted altogether"* ([17]). Such was the uncertainty about subscription at the death of Queen Elizabeth.

([13]) See Hardwick's History of the Articles, p. 227.

([14]) Selden says in his Table Talk (Tit. Articles, pp. 3 and 4), "There is a secret concerning them. Of late ministers have "subscribed to all of them, but by the Act of Parliament that "confirmed them, they ought only to subscribe to those Articles "which contain matters of faith, and the doctrine of the sacra- "ments, as appears by the first subscriptions." He then adds, that Bishop Bancroft in the Convocation "held in King James's "days began it, that ministers should subscribe to three things; "to the King's Supremacy, to the Common Prayer, and to the "Thirty-nine Articles. Many of them do not contain matter "of faith. Is it matter of faith how the Church should be "governed?" In Gibson's Codex, the Articles which are said to be "such only as directly concern faith and doctrine," are enumerated as follows:—i., ii., iii., iv., v.–ix., x., xi., xii., xiii., xiv., xv., xvi., xvii., xviii. and xxii. (See vol. i. p. 321, ed. 1761.) Neale takes the same view as Selden, quoting the well known anecdote of Mr. Peter Wentworth, and adding, "So the article "relating to discipline was waived, and an Act was passed "confirming all the doctrinal Articles of 1562" (*Neale's Hist. of Pur. vol. i. p.* 175, *and see pp.* 299 *and* 345; see also Cardwell's note to Archbishop Whitgift's Articles, *Append.* S. p. 45, Fuller's Ch. Hist. B. ix. Hallam's Const. Hist. vol. xi., pp. 191, 192, Ed. 1850. Hardwick's Hist., of Art., p. 277.) Bennett in his Essay on the 39 Articles, cxxxi., takes a different view, quoting Coke's Instit. B. iv. c. 74; but the quotation hardly bears out his reasoning.

([15]) These Articles are preserved in Reg. J. Whitgift, fol. 97. a. See also Wilkins' Concilia, vol. iv. p. 307, Anno Christi 1584; and see Cardwell's Docum. Annals of the Church, vol. i. p. 466, from which they are printed in Appendix S. In December 1584, they seem to have been complained of in Parliament, for a petition was presented to the Lords Spiritual and Temporal by the Commons, in which it was prayed, among other things, that "hereafter no oath or subscription be tendered to "any that is to enter into the ministry, or to any benefice with "cure, or to any place of preaching, but such only as be "expressly prescribed by the Statutes of this realm." (Sir Simon D'Ewes Journal, p. 358.) And it is tolerably clear that they were not previously submitted to Convocation. When the articuli pro clero were put forth in 1584, under the decree, "Ut homines idonei ad sacros ordines admittantur," the Bishop was simply required not to admit any person to Holy Orders, "nisi rationem fidei suæ juxta articulos illius religionis Latino "sermone reddere posset," and there is no mention of the three articles of Archbishop Whitgift. The Decreta cleri Cantuarensis Synod Londini, anno 1584, are in Strype's Whitgift, B. iii., App. No. xviii., and Cardwell's Synodalia, vol. i. p. 141. Strype says, that the Queen allowed of and gave her Royal assent unto these articles, to give them greater authority. See Life of Whitgift.

([16]) For a full explanation of this see The works of John Whitgift, third portion, as published by Parker Society, 1853, p. 603. Strype's Whitgift, B. iii., c. 7 & 8. Fuller's Ch. Hist. B. ix. s. 5.

([17]) See Rogers on the XXXIX. Articles, preface, p. 10. This book was published in two parts, A.D. 1585 and A.D. 1587; it was again printed with the preface or dedication to Bancroft

Clerical Oaths and Subscriptions on the Accession of James I.

VIII. On the accession of James the First to the Crown of England, the laxity last adverted to in the matter of subscription would probably have increased, unless some change had been made in the practice and discipline of the Church. At that time, it will be borne in mind that no other subscription could be required by law than that which was enjoined by the 13th Elizabeth, c. 12. The oath of supremacy could be imposed, and the use of the Book of Common Prayer could be enforced by penalties or punishments of various kinds; but the authority under which assent could be required either to them or to any of the three articles of Archbishop Whitgift, had expired with the Queen ([18]). At that time also, it ought further to be borne in mind, that the state of the country with regard to religion was somewhat critical. The two crowns of England and Scotland were united under one head, but the practice of the two churches was widely different in discipline and government. The Roman Catholics and the Puritans, though bitter against each other, were equally bitter against the Church of England. Even those who professed to belong to the Church of England were so much in the habit of altering the services, that there was no moral certainty what doctrine would be preached or what form of worship would be observed; and so, according to a remarkable passage in Sir Walter Raleigh's History of the World, confirmed as it is by many passages from other authors of a similar import, there seems to have been no inconsiderable apprehension that "as many kinds of religion would "spring up as there were parish churches within "England" ([19]).

IX. It was under these circumstances that the Conference of Divines at Hampton Court ([20]) was convened in the year 1603. One cause of alarm was soon set at rest, for the new King, acting on the principle that "Church Government ([21]) need not "rest on one platform," assured the people in his proclamation that he "had reason to think the state "of the Church here established, and the degrees and "orders of ministers governing the same, to be agree-"able to the Word of God, and the form of the Pri-"mitive Church." The objections of the Brethren, as the Puritans called themselves, setting aside the main question in dispute, namely, the question of Church Government, upon which the King had declared himself explicitly, turned chiefly on certain ceremonial observances, such as wearing the cap and surplice, the sign of the cross in baptism, and the ring in marriage; or on particular phrases and expressions in the burial, marriage, and confirmation services; or on the requirement to read the Apocrypha as part of the lessons of the day. So far as subscription was concerned, it appears to have been acquiesced in and generally allowed of, except when it implied a concurrence and consent in those matters which were objected to above. Dr. Raynolds the great advocate of the Puritan party, distinctly said that he and others were willing to subscribe to the statutes of the realm, to the articles of religion, and to the King's supremacy; and the Millenary Petition, as the Petition of the Non-conformists was, then called, had previously stated the same thing ([22]). It was not subscription, therefore, taken by itself, which precluded agreement. That which really precluded agreement was the question of Church Government underlying the question of subscription. Thus, in their first admonition to Parliament, Art. 14, the Puritans objected, "Their Pontifical, which "is annexed to the Book of Common Prayer (and "whereunto subscribing to the Articles we must "subscribe also), whereby they consecrate Bishops, "make Ministers and Deacons, is nothing else but "a thing word for word drawn out of the Pope's "Pontifical, and sheweth him to be Antichrist most "lively." In like manner, when Dr. Raynolds made his last proposition, "I desire that, according to "certain provincial constitutions, the clergy may "have meetings every three weeks," the sharp and unseemly interruption of the ([23]) King destroyed at once the last chance of an amicable settlement; and then the conference was brought to a close. Convocation met soon afterwards. The Canons of the Church were revised. Among those Canons were the three Whitgift articles. These were now confirmed by the Letters Patent of the King, and since that time they have bound the clergy; though, *proprio vigore*, they do not bind the laity. Indirectly,

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in 1607, and reprinted by the Parker Society. And see Survey of the Pretended Holy Discipline, p. 249, London, 1593, quoted by Hardwick in his Hist. of the Articles, p. 233. For a remarkable confirmation of these opinions, see further Sir W. Raleigh, *infra*, note ([19]).

([18]) In Gibson's Codex it is said, that "the Canons of 1603 "were generally taken (and in many instances by repetition) "word for word from Canons and Constitutions which had "been made in the reign of Elizabeth, and which, having been "confirmed only by herself and not expressly for her heirs, are "thought to have lost their authority by her death," and that was the reason upon her death why they proceeded upon so much expedition to compile the Canons of A.D. 1603, (see Preface xi., and note to p. 955). But the truth is, that these Canons lost their authority on Queen Elizabeth's death for two reasons, because, in the first place, they were not confirmed either by Convocation or by Parliament, and because, in the second place, they had only been passed for the lifetime of the Queen.

([19]) Raleigh says, in the 2nd Book of the 1st Part of his History, Chapter 5, Section 1, speaking of the Tabernacle and the Ark: "The industry used in the framing thereof, and every "and the least part thereof, the curious workmanship thereon "bestowed, the exceeding charge and expense in the provisions, "the dutiful observance in the laying up and preserving the "Holy Vessels, the solemn removing thereof, the vigilant "attendance thereon, and the provident defence of the same, "which all ages have in some degree imitated, is now so for-"gotten and cast away in this superfine age, by those of the "family, by the Anabaptist, Brownist, and other sectaries, as "all cost and care bestowed and had of the Church, wherein "God is to be served and worshipped, is accounted a kind of "popery, and as proceeding from an idolatrous disposition; "insomuch as time would soon bring to pass (if it were not "resisted) that God would be turned out of Churches into "barns, and from thence again into the fields and mountains, "and under the hedges; and the officers of the ministry "(robbed of all dignity and respect) be as contemptible as "these places. All order, discipline, and church government "left to newness of opinion and men's fancies; yea, and soon "after, as many kinds of religion would spring up as there are "parish churches within England; every contentious and "ignorant person clothing his fancy with the Spirit of God, and "his imagination with the gift of revelation; inasmuch as "when the truth, which is but one, shall appear to the simple "multitude no less variable than contrary to itself, the faith of "men will soon after die away by degrees, and all religion be "held in scorn and contempt." This opinion is nearly the "same as that expressed by Rogers and Bishop Bancroft, see note ([16]) and ([17]).

([20]) For an account of the Conference, see Fuller's Ch. Hist. B. x., pp. 6–24, Neale, vol. 1., Collier, vii., 272–308.

([21]) This phrase is taken from Bacon's Tract on the Pacification of the Church. The whole tract was evidently written at this time and presented to the King. The Proclamation of the King will be found in Strype's Whitgift, 569. For the points in controversy, see in addition to the former authorites in note 20, Bacon, *ut supra*, pp. 79–84.

([22]) Neale's explanation of this is, that the Puritans "were "willing to subscribe to the Doctrinal Articles of the Church, "to the King's supremacy, and to the Statutes of the Realm." And he remarks in another place with regard to the Puritan's Chief Principles, that he "did not object against prescribed "forms of prayer, provided a latitude was indulged the minister "to alter and vary some expressions, and to make use of a "prayer of his own conception before and after sermon." (Hist. of Puritans, Vol. i., 379, Ed. 1837.) The Millenary Petition will be found at length in Fuller's Church History, B. x.

([23]) See Fuller's Church Hist. of Britain, Book x., p. 18, where the King interrupts, and Raynolds says, "If you aim at a "Scotch Presbytery, it agreeth as well with monarchy as God "and the devil. Then Jack, and Tom, and Will, and Dick, "shall meet and censure me and my Council. Therefore I "reiterate my former speech Le Roy s'avisera: Stay, I pray, "for one seven years, before you demand, and then if you "find me grow pursy and fat, I may perchance hearken unto "you, for that government will keep me in breath, and give "me work enough." This speech is rather fuller in Neale (Vol. i. p. 441), but not different in substance.

however, they are guarantees to the laity (24) of the only doctrines which can be taught, and of the only form of worship which can be observed in the public services of the Established Church. And since they may be considered as the main foundation upon which subscription has subsequently rested, it will be convenient to set them out in full.

CANON 36.—"*Subscription required of such as are to be made Ministers.*

"No person shall hereafter be received into the Ministry, nor either by institution or collation admitted to any Ecclesiastical Living, nor suffered to preach, to catechize, or to be a Lecturer or Reader of Divinity, in either University, or in any Cathedral or Collegiate Church, City, or Market Town, Parish Church, Chapel, or in any other place within this realm, except he be licensed either by the Archbishop, or by the Bishop of the Diocese where he is to be placed, under their hands and seals, or by one of the two Universities under their seal likewise; and except he shall first subscribe to these three Articles following in such manner and sort as we have here appointed.

"I. That the King's Majesty, under God, is the only Supreme Governor of this Realm, and of all other His Highness's dominions and countries, as well in all Spiritual or Ecclesiastical things or causes as temporal: and that no foreign prince, person, prelate, state, or potentate hath or ought to have any jurisdiction, power, superiority, pre-eminence, or authority, Ecclesiastical or Spiritual, within His Majesty's said realms, dominions, and countries.

"II. That the Book of Common Prayer, and of Ordering of Bishops, Priests, and Deacons, containeth in it nothing contrary to the Word of God, and that it may lawfully so be used; and that he himself will use the form in the said Book prescribed, in Public Prayer, and Administration of the Sacraments, and none other.

"III. That he alloweth the Book of Articles of Religion agreed upon by the Archbishops and Bishops of both provinces, and the whole Clergy in the Convocation holden at London in the year of our Lord God one thousand five hundred sixty and two; and that he acknowledgeth all and every the Articles therein contained, being in number nine and thirty, besides the ratification, to be agreeable to the Word of God.

"To these three Articles whosoever will subscribe, he shall, for the avoiding of all ambiguities, subscribe in this order and form of words, setting down both his Christian and Surname, viz., *I*, N.N., *do willingly and* ex animo *subscribe to these three Articles above mentioned, and to all things that are contained in them.* And if any Bishop shall ordain, admit, or license any, as is aforesaid, except he first have subscribed in manner and form as here we have appointed, he shall be suspended from giving of orders and licences to preach for the space of twelve months. But if either of the Universities shall offend therein, we leave them to the danger of the law and His Majesty's censure."

CANON 37.—"*Subscription before the Diocesan.*

"None licensed, as is aforesaid, to preach, read, lecture, or catechize, coming to reside in any diocese, shall be permitted there to preach, read, lecture, catechize, or minister the Sacraments, or to execute any other Ecclesiastical function, by what authority soever he be thereunto admitted, unless he first consent and subscribe to the three Articles before mentioned, in the presence of the Bishop of the Diocese wherein he is to preach, read, lecture, catechize, or administer the Sacraments as aforesaid."

X. Two circumstances should here be noticed with reference to these Canons. The first is that though the Act of Elizabeth may be supposed to have limited the declared assent of the Clergy to those Articles which only concern the Christian faith and the administration of the Sacraments, yet the Canon of 1603, adopting the Articles of Archbishop Whitgift, requires an acknowledgment that all the Articles of Religion, being in number thirty-nine, are agreeable to the Word of God. In practice the two requirements are now contained in one form, which is as follows:—"I, *A.B.*, do willingly and from my heart "subscribe to the Thirty-nine Articles of Religion "of the United Church of England and Ireland, and "to the Three Articles in the Thirty-sixth Canon, "and to all things therein contained." To that form an objection has sometimes been taken, upon the ground that the sanction of Parliament ought to have been obtained before a Statute was virtually added to or superseded. And though in this instance such an objection cannot, with respect to the Clergy, be regarded as an objection of substance, since they are as much bound by the Canons of the Church as they would be by Statute; yet, as regards the Laity, it cannot be denied that in all matters affecting the established religion of the country, the concurrence of the Temporal and Ecclesiastical authorities is a matter of vital importance.

XI. The other circumstance with reference to these Articles which requires some notice is the promise which the clergyman makes as to the exclusive use of the Common Prayer, that is to say, "That he will use the forms in the said book "prescribed in public prayer and administrations "of the Sacraments, *and none other*." It has sometimes been thought that these words preclude the use of any prayers excepting those which are contained in the Prayer Book, and therefore that the occasional prayers as well as the occasional services which have been enjoined by authority from time to time cannot be read without a violation of the Clergyman's pledge. The better opinion however, which has been confirmed,—at least as regards the occasional prayers—both by authority and long established usage, is that the words *none other* do not apply to "additional prayers," but to prayers substituted *instead* of those which are prescribed by the Legislature. Thus an indictment for using other prayers and in other manner than is mentioned in the said Book has been judged insufficient, because it was agreed, the prayers used may be upon some extraordinary occasion, and so no crime; and it was said that the indictment ought to have alleged that the defendant used other forms and prayers *instead* of those enjoined, which were neglected by him, for otherwise every person may be indicted that uses prayers before the sermon other than such as are required by the Book of Common Prayer (25). The question with regard to the occasional services is certainly more difficult, because in those cases other prayers are used *instead* of those appointed by the Rubric. Early in the last century a clergyman, Mr. Johnson, refused to read the service appointed for the King's Accession. For this omission he was cited to appear before the Bishop. Proceedings were taken by which the point might have been tried, but in fact it was never decided, inasmuch as Mr. Johnson retracted and submitted.

XII. It does not appear that the power of the Crown to order these special services has since been questioned. Three of them were discontinued by Royal Order, countersigned by the Secretary of State, when the Acts of Parliament enjoining the observance of the 30th of January, the 29th of May, and the 5th of November were (26) repealed. The fourth service, namely, that which relates to the Accession, the inauguration service as it is technically called, was not in any way affected by the change. It had been ordered (as the others had been ordered) by the Queen's pleasure being signified to that effect through the Secretary of State to the Archbishop of Canterbury. It may here be noted that these special services never formed part of the Sealed Book: and as two of them were introduced at the very time when the Act of Uniformity was passed, the power of the Crown to order such services can hardly be questioned, and usage has sanctioned the exercise of the power from that time to this. Other occasional services, such, for instance, as that appointed for a Solemn Fast on the occasion of the Indian mutiny, or for a public thanksgiving on the restoration of peace

(24) It was once laid down, indeed, that Convocation, with a licence from the Crown, could make Canons which became "the "law of the kingdom as well as an Act of Parliament." (See Grove *v.* Elliot, 2 Ventr. 41, and Hill *v.* Good, Vaughan, 327.) But Coke was of a contrary opinion, 12 Rep., p. 72, and Chief Justice Holt and Lord Hardwithe decided the question the other way. See 2 Salk. 673, and Middleton *v.* Croft, Strange Rep., 1056, and 2 Atkyn, 600. This is now the settled law.

(25) See Burns' Eccl. Law, by Phillimore, vol. iii. p. 429. quoting the King *v.* Sparks, 1 Mort. Rep. 79. For Johnson's case, which is next quoted, see Burns, vol. ii. p. 327.

(26) These services were discontinued in consequence of addresses to the Crown from the two Houses of Parliament. The Statute which repealed the Acts enjoining the religious observance of these particular days was the 22 Vict. c. 2.

after the Crimean war, have been ordered by Royal Proclamation. In all these cases the Crown directs a form of service to be prepared, and the preparation of it is usually intrusted to the Primate. On a recent occasion the Secretary of State informed the Archbishop of Armagh that so much doubt was found to exist as to whether the Crown could authorize the use of a special Thanksgiving Service after harvest that Her Majesty's Government declined to advise Her Majesty to make an order to that effect. (See Parliamentary Paper, House of Commons, 1864, No. 562, p. 26.)

XIII. In addition to the three Articles which the Canons of 1603 required the Clergy to subscribe to, an oath against Simony on institution to a benefice appears to have been introduced in a new form. An oath against Simony was, no doubt, always a part of the ancient as well as the present constitution of the Canon Law of the Church; but the first Statute against it was passed in the reign of Elizabeth. The forms of some of these oaths are preserved by ([27]) Gibson. Another form was suggested when the Reformation began. The present form, as prescribed by the Fortieth Canon, is in these words:—

CANON 40.—"*An Oath against Simony at Institution into Benefices.*

"To avoid the detestable sin of Simony, because buying and selling of Spiritual and Ecclesiastical functions, offices, promotions, dignities, and livings is execrable before God; therefore the Archbishop, and all and every Bishop or Bishops, and any other person or persons, having authority to admit, institute, collate, instal, or to confirm the election of any Archbishop, Bishop, or other person or persons, to any Spiritual or Ecclesiastical function, dignity, promotion, title, office, jurisdiction, place, or benefice, with cure or without cure, or to any Ecclesiastical living whatsoever, shall, before every such admission, institution, collation, installation, or confirmation of election, respectively, minister to every person hereafter to be admitted, instituted, collated, installed, or confirmed in or to any Archbishopric, Bishopric, or other Spiritual or Ecclesiastical function, dignity, promotion, title, office, jurisdiction, place, or benefice, with cure or without cure, or in or to any Ecclesiastical living whatsoever, this oath, in manner and form following, the same to be taken by every one whom it concerneth in his own person and not by a Proctor: *I*, N.N., *do swear, That I have made no simoniacal payment, contract, or promise, directly or indirectly, by myself, or by any other to my knowledge, or with my consent, to any person or persons whatsoever, for or concerning the procuring and obtaining of this Ecclesiastical dignity, place, preferment, office, or living,* (respectively and particularly naming the same whereunto he is to be admitted, instituted, collated, installed, or confirmed,) *nor will at any time hereafter perform or satisfy any such kind of payment, contract or promise, made by any other without my knowledge or consent: So help me God through Jesus Christ.*"

XIV. It will thus appear that from the accession of James the First down to the time when the Church of England was proscribed by the Commonwealth, all the oaths, except the oath of canonical obedience, and all the subscriptions required of the Clergy virtually depended on the Canons passed in 1603. For though the Statutes relating to them were still in force, yet the Canons were fuller, and they comprehended everything which the Statute Law required, and more also.

CLERICAL OATHS AND TESTS ON THE RESTORATION OF CHARLES THE SECOND.

XV. The necessity of reconsidering the question of subscription at the time of the Restoration arose from the troubles which had superseded the old form of Church government without the substitution of any other in its place. During those troubles indeed the Westminster Assembly of Divines drew up a general Directory of Public Worship, and they thereby endeavoured to establish a Presbyterian uniformity. Though this Directory did not furnish specific Forms of Prayer, yet it prescribed an outline of Service to be filled up by the Minister; but it was neither accepted by the Clergy of the Church of England nor by the Independants or other Nonconformists. The consequence was a general discontent. The new establisment, if it can be called an establishment, was Presbyterian, but the Presbyterian discipline and synodical government were only partially introduced, and Neale says it proved not to the satisfaction of any one party of Christians([28]). The members of the old establishment were excluded from their benefices, and they were even prohibited from using the Book of Common Prayer. The Independants were favoured by Cromwell, who wished to maintain a National Church, and yet resolved neither to admit Presbytery nor Episcopacy. Through his influence, therefore, Commissioners were appointed under the name of Triers, who presented to all livings which were formerly in the gift of the Crown. But these men were generally unpopular from their ignorance and their tyranny. Hence arose a general dissatisfaction and a general confusion. The Independants were in a minority, and as a body they had little or no learning; Churchmen were denied the use of their own Liturgy, some of their best divines were excluded from their livings, and their room was occupied by others; and if the opinion of the Presbyterians may be judged of from Edwards's Gangræna, "Universal ([29]) toleration "had tended to the laying all waste, and the dissolu- "tion of all religion and good manners." It was under these circumstances that the Presbyterians and Episcopalians were invited to meet at the Savoy Conference for the purpose of reviewing the Book of Common Prayer, (comparing it with the most ancient and purest liturgies,) for advising and consulting upon and about the same, and (if occasion be) for making such reasonable and necessary alterations, corrections, and amendments as should be agreed upon for giving satisfaction to tender consciences, and for the restoring and continuance of peace and unity in the churches under His Majesty's protection and government ([30]).

XVI. It would be beside the subject of our present inquiry to detail the proceedings of that Conference, or to dwell on the reasons why it failed of its object. It will be sufficient here to state that the Independants were offended because they were neither considered

([27]) See Gibson's Codex, p. 802 note. That the oath against Simony was first introduced in the reign of Elizabeth, see Selden's Table Talk, title Simony.

([28]) See Hist. of Puritans, vol. ii. p. 372. The Directory was established and the Book of Common Prayer abolished by an Act or Ordinance, Anno 1644, c. 51, and penalties for using the latter were enforced by an Act or Ordinance, Anno 1645, c. 59. (See the Acts and Ordinances, published by Scobell, Clerk of the Parliament, London, 1658.) These regulations were strictly enforced by Cromwell's Proclamation in 1657. See Evelyn's Memoirs, 27th Nov. 1655, and 25th Dec. 1655.

([29]) One of the passages in Edwards's Gangræna, a noted book in that age, is the following:—"Things every day grow "worse and worse; you can hardly imagine them so bad as "they are; no kind of blasphemy, heresy, disorder, and con- "fusion but it is found among us, or is coming in upon us. For "we, instead of reformation, are grown from one extreme to "another; fallen from Scylla to Charybdis; from Popish "usurpations, superstitions, and prelatical tyranny to damnable "heresies, horrid blasphemies, libertinism, and fearful anarchy. "Our evils are not removed and cured, but only changed; one "disease and devil hath left us and another as bad is come in "the room; many of the sects and sectaries in our days deny "all principle of religion, are enemies to all holy duties, order, "learning, overthrowing all; being vertiginosi spiritus, whirli- "gig spirits. And the great opinion of an universal toleration "tends to the laying all waste, and the dissolution of all religion "and good manners."—(Gangræna, Epist. Ded.) Strong as this passage is, it is strikingly confirmed from a different point of view by Evelyn in his Memoirs, 19th Aug. 1654. "On "Sunday afternoon I frequently stayed at home to catechise "and instruct my family; those exercises universally ceasing "in the parish churches, so as people had no principles, and "grew very ignorant even of the common points of Christianity, "all devotion being now placed in discourses of speculative and "natural things."—Again, 3rd August, 1656: "The Church of "England was reduced to a chamber or conventicle, so sharp "was the persecution. The parish churches were filled with "sectaries of all sorts; blasphemous and ignorant persons "usurping the pulpits everywhere." See generally on this paragraph Hallam, vol. i. pp. 616–621; vol. ii. p. 13; Neale, vol. ii. p. 277 and 624; Macaulay's History of England, vol. i. p. 161, and vol. iii. p. 81; Burnet, vol. i. pp. 304–321.

([30]) See the King's Manual for the Conference at Savoy Wilkins' Concilia, vol. iv., pp. 570–2; Reliquiæ Baxterianæ, 303–5; and Cardwell's Documents relating to the Act of Uniformity, No. xiv. pp. 109–111.

nor consulted. The Presbyterians were for maintaining their own notions of Church Government(31). The Episcopalians were for a restoration of the old Establishment. The real question then at issue was whether the Presbyterians and Episcopalians could be included in one Church. With that view eight particulars were charged by the Presbyterians against the Church of England to be flatly sinful, and these, of course, it was necessary to meet before any agreement could be looked for. Seven of the particulars were nearly similar to those discussed at Hampton Court. The eighth was "the declaration that none "may be a preacher that dare not subscribe that "there is nothing in the Common Prayer Book, the "Oath of Ordination, and the Thirty-nine Articles "that is contrary to the Word of God"(32). With this exception it does not appear throughout all the debates that subscription, in itself, was ever objected to. On the contrary, it was assumed; and the Presbyterians urged, not that it should be done away with, but that it went too far. The objection taken was not so much to the things subscribed, provided that some modification could be made in them, as to the very large and absolute form in which subscription was required. Party spirit, however, ran too high to admit of many modifications, while the form of subscription was made still larger and still more absolute by the Act of Uniformity. Such was the case in three particulars. In the first place, by the 1st and 2nd sections of that Act every beneficed clergyman was and still is required openly and publicly before the congregation, "to declare his unfeigned assent "and consent to *the use of* all things in the said Book "prescribed"; but then he is to do so in these words, and no other:—

"I, *A.B.*, do hereby declare my unfeigned assent "and consent to all and every thing contained and "prescribed in and by the Book intituled *The Book* "*of Common Prayer and Administration of the* "*Sacraments and other Rites and Ceremonies of the* "*Church, according to the use of the Church of* England: *together with the Psalter or Psalms of* David "*pointed as they are to be sung or said in Churches;* "*and the Form or Manner of Making, Ordaining,* "*and Consecrating of Bishops, Priests, and Deacons.*"

So that, while the enactment, like the Canon of 1603, was only as to the use of the Common Prayer Book, the Declaration required an unfeigned assent and consent to all and every thing contained therein. In the second place, by section 6, every dean, canon, and prebendary of any cathedral or collegiate church, and every parson, vicar, curate, lecturer, and every other person in Holy Orders is required to make the following declaration:—"I, *A.B.*, do declare that it "is not lawful upon any pretence whatever to take "arms against the King, and that I do abhor that "traitorous position of taking arms by his authority "against his person, or against those that are commissioned by him; and that I will conform to the "Liturgy of the Church of England as it is now by "law established; and I do declare that I do hold "there lies no obligation upon me or on any other "person, from the oath commonly called the solemn "League and Covenant to endeavour any change or "alteration of Government, either in Church or "State, and that the same was in itself an unlawful "oath, and imposed upon the subjects of the realm "against the honour, laws, and liberties of this "kingdom." This declaration in all its parts was entirely new, but one portion of it was only temporary, and another portion has since been repealed. In the third place, by the 15th section (33), all lecturers and preachers are required to read in the presence of their Diocesans the Thirty-nine Articles of Religion, with declaration of their unfeigned assent to the same, and on the first lecture day of every month they must also declare before the congregation their unfeigned assent and consent unto and approbation of the Book of Common Prayer, and the use of all the prayers, rites, and ceremonies, laws, and orders therein contained and prescribed; and they were not allowed to preach at all unless the Common Prayers had previously been read by some Priest or Deacon, the Lecturer being present at the reading thereof. These requirements were likewise new, but they were obviously intended to place Lecturers and Preachers under the same obligation as Incumbents with reference to the doctrines and formularies of the Church.

XVII. It will thus be seen that new and additional forms of declaration were imposed by the Act of Uniformity. Objection was taken to some of them very early. Neale says truly, in his History of the Puritans, that "that which the dissenters of all de-"nominations refused was giving their assent and "consent to all and every thing contained in the "Book of Common Prayer. This they apprehended "to be more than was due to any human com-"position"(34). In answer to this objection it has sometimes been contended that since in the enacting part of the Statute assent and consent was required only to the use of all things in the said book prescribed, the Declaration should be taken in that sense also. But it is almost certain that the Declaration was intended in its literal meaning. For in the following year it was proposed in the House of Lords to amend the Declaration to this extent, that "the "declaration and subscription of assent and consent "should be understood only as to the practice and "obedience to the said Act and not otherwise"(35). But the Commons instantly rejected that amendment, one of the members saying at the Conference that what was sent down to them had neither justice nor prudence in it. It can hardly be denied, therefore, that a more stringent form of declaration was introduced for the first time by the Act of Uniformity, and it is also certain that this form was introduced by Parliament, and not by Convocation.

Clerical Oaths and Subscription at the Time of the Revolution.

XVIII. 1. The only other epoch at which the Legislature has seriously attempted to deal with the terms and forms of subscription was the Revolution of 1688. Schemes of comprehension had formerly been suggested, and the draft of a Bill which Lord Nottingham introduced into the House of Lords for "Uniting their Majesty's Protestant subjects," was nearly the same as one which had been drawn up by Sir Matthew Hale in 1668. That Bill had a double object; one for the relaxtion of what Hallam has designated "a few scrupled ceremonies," the other for a change of the clerical oaths and form of subscriptions(36).

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(31) They even desired to preclude the King from using the Liturgy of the Church of England in his own chapel. (See Clarendon's History, vol. vii. pp. 501–3.)

(32) See the paper offered by Bishop Cosin, and the Answer thereto by Baxter.—Reliquiæ Baxterianæ, pp. 341–3; Cardwell's Documents, pp. 346 to 350. The seven other particulars which are stated to be contrary to the Word of God will be found in Cardwell's Documents, pp. 347, 348.

(33) The declaration that it was illegal to take up arms against the King was abolished by 1 Will. & Mary, c. 8. s. 11, and the declaration with reference to the oath called "The Solemn "League and Covenant" was not to be required after March 5th, 1682.

(34) See Neale's History of the Puritans, vol. iii. p. 118.

(35) See Lords' Journals, vol. ii. pp. 553–557, and Com. Journ., vol. viii. p. 535.

(36) This Bill has never been published; "a single copy, the "same which Nottingham presented to the Peers, is still among "the Parliamentary records, but has been seen by only two or "three persons now living. It is a fortunate circumstance that "in this copy almost the whole history of the Bill can be "read," &c. See Macaulay's History of England, vol. iii., p. 90. A printed fac-simile of this copy, with all the cancellations and interlineations, will be found in Appendix T.

XVIII. 2. It was with reference to the former object that the Bill failed, the latter was hardly discussed. According to the former object, the minister, if he thought fit, was not to be obliged to wear the surplice, or to use the sign of the Cross in baptism; nor could he require that sponsors should be found if the parents, or friends of the parents, presented the child and answered for it; nor could he refuse the Holy Sacrament to any person desirous to receive the same, either sitting or in his pew. There had also been a clause in the Bill which would have enabled a Presbyterian minister to preach the Word and administer the Sacraments without re-ordination, but it was struck out in the House of Lords; and there had likewise been a clause beseeching the Crown to issue a Commission to make such alteration in the Liturgy and reformation of the Canons as might conduce to the establishment of the Church in peace and tranquillity, and to present such alterations and reformations to the Convocation and to Parliament. It was on that clause principally that the measure suffered shipwreck, for after a few sittings Bishop Spratt and Bishop Mew, with Dr. Jane, Dr. Aldrich, and a few others, retired from the Commission, and they successfully opposed in Convocation all the changes which it was proposed to make. When that happened the Bill was dropped.

XVIII. 3. With regard to the latter object, the form of declaration as originally sketched was entirely recast in the House of Lords. As originally sketched it run thus:—"I, *A.B.*, do approve of the doctrine "and worship and government of the Church of "England by law established as containing all things "necessary to salvation; and I promise, in the "exercise of my ministry, to preach and practice "according thereunto." The amended form was as follows:—"I submit to the present constitution of "the Church of England. I acknowledge that the "doctrine of it contains in it all things necessary to "salvation, and I will conform myself to the worship "and government thereof as established by law; and "I solemnly promise, in the exercise of my ministry, "to preach and practice according thereunto." It will be observed that both these forms, in some respects, go further than, and in other respects fall short of, the forms prescribed by the Act of Uniformity. They go further than that form, inasmuch as both of them contain a future promise. They fall short of that form, inasmuch as they neither of them require unfeigned assent to all and every thing contained in the Book of Common Prayer. These forms, especially the first, have much to recommend them on the score of simplicity. But perhaps it would be impossible to adduce a stronger proof of the difficulty of dealing with this important subject, so as to ensure a general concurrence, than to mark the proceedings which then took place. The fact that the form, as originally introduced, was so quickly changed, shows how careful we ought to be in dealing with a question which effects so vitally the religious conviction of a whole community; and the prudent caution with which we should act in such a matter is best illustrated by the circumstance that the good and great men who were most eager in 1689 to support this scheme (hoping thereby that it would have proved a scheme for union) were the most thankful that it was given up when they found that it would lead, from want of concurrence, to still greater division(37).

XIX. The foregoing summary of historical facts connected with subscription is confined to those instances in which authoritative action was actually taken or definitively proposed. But, for fear of omitting any circumstance which may be considered important on the question before us, some notice should here be taken of the memorable petition presented to the House of Commons in 1772 by 250 clergymen of the Church of England and certain members of the legal and medical profession. By that petition the Petitioners prayed to be released from subscription, and they claimed "to be restored to their "undoubted rights as Protestants of interpreting "Scripture for themselves without being bound to "any human explication thereof, or required to "acknowledge by subscription and declaration the "truth of any formularies of religious faith and "doctrine whatsoever besides Holy Scripture itself." It will be seen at a glance that this was an application entirely different from any which preceded it. It was not an application from those who were without, but from those who were within the Church. Instead of being an application to relax the laws relating to subscription, it was rather an application to abolish subscription altogether, except so far as the parties subscribing were willing to acknowledge the authority of the Bible, and that only. The debate which followed on the question that the petition should be brought up was a very remarkable one; but probably there was nothing for which it was so remarkable as the speech of Mr. Burke. In that speech, a fragment of which alone remains, he admitted that the Church of England, like any other body corporate, might alter her laws without changing her identity; but he contended that the ground for a legislative alteration of such an establishment was this, and this only, that the inclinations of a majority of the people concurred with the deliberate convictions of Parliament in desiring such a change. He then showed that the hardship alleged by the petitioners was little more than this, that they wanted to receive the emoluments of the Church appropriated for teaching one set of doctrines, whilst they themselves were to be left at liberty to teach another; and he insisted on the reasonableness of applying such emoluments to those only who profess the doctrines and follow the mode of worship which the Church and Legislature has prescribed. For the sake of order, peace, and decorum, he further contended that some criterion—more precise and more definite than the Scriptures—was requisite for the regulation of a national priesthood; and he showed, by a variety of illustrations, that subscription to Scripture alone would not answer the purpose. "since you must define what that "Scripture is which you mean to teach;" and having defined it, then would arise "the absolute necessity "of knowing what general doctrine a man derives "from it before he is sent down authorized by the "State to teach it as pure doctrine" to the people. Other members followed Mr. Burke, and among them Sir George Saville, whose speech was characterized by a competent judge as one of the best ever delivered in the House of Commons. But powerful as it was on other points, it did not attempt to touch the main argument with which we have to deal, namely this, that in every Church calling itself national, it is right and fitting, and perhaps indispensable, for the security of the people that those who have to minister in that Church should pledge themselves to a more definite teaching than that which is implied or could be expressed under a mere assent to Holy Scripture. Such a pledge would enable every one to insist on preaching and teaching to others his own doctrines or his own fancies; and no power could call him to account,

(37) For the history of the Comprehension Bill, *see* Kennet's History of England, vol. iii. pp. 549–554, and Burnet's Own Times, vol. iv. pp. 16–22. Lord Macaulay's account of it is the best that has yet been published (*see* vol. iii. of his History, c. 11 and c. 14). He thus concludes, "So ended and for ever "the hope that the Church of England might be induced to "make some concession to the scruples of the Nonconformists. "A learned and respectable minority of the clerical order "relinquished that hope with deep regret. Yet, in a very "short time, even Burnet and Tillotson found reason to believe "that their defeat was really an escape, and that victory would "have been a disaster." * * * "It is an indisputable and most "instructive fact that we are in a great measure indebted for "the civil and religious liberty which we enjoy to the pertinacity with which the High Church party in the Convention "of 1689 refused even to deliberate on any plan of Comprehension."—*Ibid.*, pp. 494, 495.

since no court would be furnished with a standard by means of which it could be ascertained and determined whether he had or had not violated the trust committed to his charge. It is no wonder, therefore, that this petition ([38]) was rejected by a majority of 217 against 71; and whatever relaxations may have since been agitated from time to time, no one has contended that subscription to Scripture, and to that only, would be sufficient. The argument then pressed by Mr. Burke in Parliament was judicially enforced by Sir W. Scott in 1808. "I cannot," he said, "omit to observe "that it is essential to the nature of every establish- "ment, and necessary for the preservation of the "interests of the Laity as well as of the Clergy, that "the preaching diversity of opinions shall not be fed "out of the appointments of the Established Church; "since the Church itself would otherwise be over- "whelmed by the variety of opinions which must, in "the great mass of human character, arise out of the "infirmity of our common nature. For this purpose "it has been deemed expedient to the best interests "of Christianity that there should be an appointed "Liturgy, to which the officers of Public Worship "should conform; and as to preaching, that it should "be according to those doctrines which the State has "adopted as the national exposition of the Christian "Faith. It is of the utmost importance that this "system should be maintained; for what would be "the state and condition of Public Worship if every "man was at liberty to preach, from the pulpit of "the Church, whatever doctrines he may think "proper to hold. Miserable would be the condition "of the Laity if any such pretension could be "maintained by the Clergy.

"It is said that Scripture alone is sufficient. But "though the Clergy of England have been always "eminently distinguished for their learning and "piety, there may yet be in such a number of per- "sons weak and imprudent and fanciful individuals. "And what would be the condition of the Church "if such person might preach whatever doctrine "he thinks proper to maintain? As the law now "is, every one goes to the Parochial Church with a "certainty of not feeling any of his solemn opinions "offended. If any person dissents, a remedy is pro- "vided by the mild and wise spirit of toleration "which has prevailed in modern times, and which "allows that he should join himself to persons of "persuasions similar to his own. But that any "Clergyman should assume the liberty of inculcat- "ing his own private opinions, in direct opposition "to the doctrines of the Established Church in a "place set apart for his own public worship, is not "more contrary to the nature of a National Church "than to all honest and rational conduct" ([39]).

IRELAND.

XX. The clerical oaths and subscriptions which are required of the clergy in Ireland are in some respects different from those which are required of the clergy in England. These differences may be briefly pointed out, for the purpose of considering whether the two countries should be put precisely on the same footing, and if so, in what way.

Oaths in Ireland.

XXI. The oath of Canonical obedience is substantially the same in both countries, ([40]) though the actual wording of the oath in Ireland is slightly different from that in England. The oath against Simony is also the same, but in Ireland there are no Statutes relating to that subject. The oaths of Allegiance and Supremacy as required from the Irish clergy are the same as those required from the English clergy. It has already been noticed, however, that a doubt has arisen whether these Acts are affected by the 21 & 22 Vict. c. 48. In Ireland it has been considered that the Statute of the Queen has superseded the former oaths of allegiance and supremacy; and, therefore, those oaths are no longer taken, but the oath prescribed by the last-mentioned Statute is administered in their stead. In England, as before stated, the former and not the substituted oaths are still imposed.

Clerical Subscription in Ireland.

XXII. With regard to subscription in Ireland, the following distinctions should be borne in mind:—

1st. The 13th Eliz. c. 12. does not extend to Ireland, and there is no Statute in force there which corresponds to that Act. Subscription therefore to the Thirty-nine Articles, and the reading of them in Church with declaration of assent (except in the particular cases provided for by the Irish Act of Uniformity, which is similar in this respect to the English Act), are not required of the Irish clergy by any Statute. The only assent to the Thirty-nine Articles which they are generally called upon to give is by subscription to the 1st Irish Canon stated below.

2nd. The provisions of the Irish Act of Uniformity 17 & 18 Chas. II. c. 6., so far as relates to the subscriptions and declarations of the clergy, are the same as those contained in the English Act of Uniformity 13 & 14 Chas. II. c. 4., and as these have already been stated, it is unnecessary here to repeat them.

3rd. The subscription required by the Irish canons differs materially in point of form, though not perhaps in point of substance, from that required by the English canons. The Irish Canons were agreed upon in a Synod held at Dublin in 1634, and by the thirty-second of them it is provided as follows:—

"Neither shall any person be received into the Ministry, nor admitted to any Ecclesiastical Living, nor permitted to preach, read, lecture, catechize, or minister the Sacraments, except he shall first, by subscription, declare his consent to the first four Canons of this present Synod, and everything contained therein."

1st (Irish) Canon.—Of the agreement of the Church of England and Ireland in the profession of the same Christian Religion.

"For the manifestation of our agreement with the Church of England, in the Confession of the same Christian faith, and the doctrine of the Sacraments: We do receive and approve the Book of Articles of Religion agreed upon by the Archbishops and Bishops, and the whole Clergy in the Convocation holden at London in the Year of our Lord 1562, for the avoiding of diversities of opinions, and for the establishing of consent touching true Religion. And therefore if any hereafter shall affirm that any of those articles are in any part superstitious or erroneous, or such as he may not with a good conscience subscribe unto, let him be excommunicated, and not absolved before he make a public revocation of his error."

2nd (Irish) Canon.—The King's supremacy in causes Ecclesiastical to be maintained.

"All Ecclesiastical Persons having the Cure of Souls, and all other Preachers and Readers of Divinity Lectures, shall to the utmost of their wit, knowledge, and learning, purely and sincerely (without any colour or dissimulation) teach, manifest, open and declare, four times every year (at the least) in their Sermons, and other Collations and Lectures, That all usurped and foreign power (forasmuch as the same hath no establishment nor ground by the law of God) is for most just causes taken away and abolished; and that therefore no manner of obedience or subjection within His Majesty's realms and dominions is due unto such foreign power; but that the King's power within his realm of Ireland, and all other his dominions and countries is the highest power under God, to whom all men, as well inhabitants as born within the same, do by God's laws owe all loyalty and obedience, and to no other foreign power and potentate in the earth. And whosoever shall hereafter maintain that

([38]) On the subject of this petition, see Parl. Hist., vol. xvii. pp. 263–297. Burke's speech is more full in vol. x. of his works, ed. 1812. There is a summary of the debate in the Pictorial History of England, vol. v. pp. 122–125, and a commentary on it in Adolphus, vol. i. pp. 505–508.

([39]) See H. M. Procurator-General *v.* Stone, 1 Hagg. Consist. Rep. p. 427.

([40]) In Ireland the wording is:—I, *A.B.*, do swear that I will perform all due canonical reverence and obedience to , Lord Bishop of , and his successors, Bishops of in all lawful and honest commands. (See Stopford's Handbook of Ecclesiastical Law, p. 329.)

the King's Majesty hath not the same authority in causes Ecclesiastical, that the godly kings had among the Jews and Christian Emperors in the primitive Church, or impeach in any part his regal supremacy in the said causes restored to the Crown, and by the laws of this realm therein established, let him be excommunicated, and not restored but only by the Archbishop of the province, after his repentance and public revocation of his error."

3rd (Irish) Canon.—Of the prescript Forms of Divine Service contained in the Book of Common Prayer.

"That form of Liturgy or Divine Service, and no other, shall be used in any Church of this realm but that which is established by the law, and comprised in the Book of Common Prayer and administration of Sacraments. And if any one shall preach, or by other open words declare or speak anything in the derogation or despising of the said Book, or of anything therein contained, let him be excommunicated, and not restored until he repent and publicly revoke his error."

4th (Irish) Canon.—Of the Form of Consecrating and Ordering Archbishops, Bishops, &c., and of the Churches established according to that Order.

"That form of Ordination, and no other, shall be used in this Church but that which is contained in the Book of Ordering Bishops, Priests, and Deacons, allowed by authority, and hitherto practised in the Churches of England and Ireland. And if any shall affirm that they who are consecrated or ordered according to those rites are not lawfully made, nor ought to be accounted either Bishops, Priests, or Deacons, or shall deny that the Churches established under this Government are true Churches, or refuse to join with them in Christian profession, let him be excommunicated, and not restored until he repent and publicly revoke his error."

It will thus be seen that the most material distinction between the English and Irish Canons on the subject of Subscriptions consists in this, according to the English Canons, the Subscriber allows and acknowledges the Thirty-nine Articles to be agreeable to the Word of God, whilst according to the Irish Canons he "receives and approves them" for the "manifestation of agreement with the Church of England in the confession of the same Christian faith, and the doctrine of the Sacraments."

XXIII. In addition to the oaths, subscriptions, and declarations above referred to, another declaration and an additional oath are required from the clergy in Ireland which are not required in England.

The declaration is a declaration against Transubstantiation prescribed by the Act 3 Wm. & Mar. c. 2.

The oath is an oath to instruct the parish children in the English tongue, which is prescribed by the Act 28 Hen. VIII. cap. 15., "An Act for the English order, habit, and language."

Summary.

XXIV. For the purpose of comparison it may here be convenient to bring together in a short form the various oaths, subscriptions, and declarations which are now considered as binding on the clergy, both in England and Ireland.

Clerical Oaths and Subscriptions as now required.

1. The oath of canonical obedience.	This is required both in England and Ireland, by the common law of the Church.
2. The oath to instruct parish children in the English tongue.	Only in Ireland, under 28 Hen. VIII. c. 15.
3. Subscription to the Articles which only concern faith and doctrine.	In England, under 13 Eliz. c. 12.; not applicable to Ireland.
4. Subscription to the Queen's supremacy, to the Common Prayer Book, and to the 39 Articles.	In England, under Canons of 1603. In Ireland, under Canons of 1634.
5. Various subscriptions, under the Act of Uniformity.	In England, under 13 & 14 Car. 2. c. 4. In Ireland, under 17 & 18 Car. 2. c. 6.
6. Oath against Simony.	In England, under Canons of 1603. In Ireland, under Canons of 1634.
7. Oath of allegiance and supremacy.	In England, under 1 Will. & Mar. c. 8. In Ireland, under 21 & 22 Vict. c. 48.
8. Declaration against transubstantiation.	In Ireland only, under 3 Will. & Mar. c. 2.
9. Oath of Queen's sovereignty.	During ordination service, both in England and Ireland.

XXV. The foregoing narrative will show at a glance that these oaths, subscriptions, and declarations have assumed, according to the events of the times, sometimes a lighter, sometimes a darker hue, and they have been pressed or relaxed according to those events with a stronger or with a gentler hand. Two great objects, however, are kept in view through them all, which form, so to speak, the distinct characteristics of the United Church of England and Ireland. (41) The first is that they maintain the purity of the Catholic Faith as opposed to the early heresies; the second that they uphold the ancient supremacy of the Crown, as opposed to the claims of Ecclesiastical usurpations and foreign powers. The early heresies may, according to the Statute of Elizabeth, be considered to be such errors in matter of doctrine as were determined, ordered, or adjudged to be heresies by the authority of the Canonical Scriptures or by the first four General Councils (42) (1 Eliz. c. 1. s. 36). The ancient supremacy of the Crown is that for which the Parliament of England had constantly struggled in the time of the Plantagenets, and this was finally secured at the time of the Reformation by the various laws then made for that purpose. It would be dangerous to remove or even to weaken the tests by which these two objects are secured; but provided that the subscriber has an honest and heartfelt sympathy with the system to which he submits, and is willing to profess as much openly and publicly before the congregation, the precise forms in which the subscription is required can hardly be made too simple or too comprehensive. At the same time there is so much wisdom in adhering as nearly as may be to the very words which have been recognized and sanctioned by long established usage, that except for some substantial reason it would not be wise to depart from them.

One Form for England and Ireland.

XXVI. Some inferences may safely be drawn from the foregoing narrative.

It is desirable that the form of declaration or subscription should be the same for the clergy of the United Church of England and Ireland. The reason is obvious. It is provided by the fifth article of the Act of Union, 40 Geo. III. c. 38, that the Churches of England and Ireland as now by law established be united into one Protestant Episcopal Church, to be called "the United Church of England and Ireland; and that the doctrine, worship, discipline, and government of the said United Church shall be and shall remain in full force for ever, as the same are now by law established for the Church of England." Since, therefore, the doctrine, worship, discipline, and government of the two branches of the United Church were and are intended to be the same as those established in England, it clearly follows that, except where circumstances exist peculiar to either, (43) whatever is recommended for one country should also be extended to the other.

(41) Dr. Arnold says, "The real honesty of subscription appears to me to consist in sympathy with the system to which you submit, it is a preference not negatively merely as better than others, but positively, as in itself good and true in its most characteristic points. Now, the most characteristic points of the Church of England are two; that it maintains what is called the Catholic Faith as opposed to the early heresies, and is also decidedly a reformed Church as opposed to the Priestly and Papal system." (*See* Stanley's Life of Arnold, vol. ii. p. 286.)

(42) The statute of Elizabeth not only thus explained what may be called early heresies, but it went on to include as heresies such errors as had been so determined "by any other general Council wherein the same was declared heresy by the express and plain words of Scripture, or such as shall hereafter be ordered, judged, or determined to be heresy by the High Court of Parliament, with the assent of the clergy in their Convocation." This is the only definition of heresy, if it can be called a definition, which the Legislature has ever made.

(43) There are several differences in the Canons which are fully explained in Mant's History of the Church of Ireland, vol. i. pp. 495, 506.

Oath of Canonical Obedience.

XXVII. The oldest of the clerical oaths is the oath of canonical obedience; an oath imposed not by any statute or canon, but by custom, or, to use the words of Bishop Gibson, "by the common law of the "Church;" it is taken by stipendiary curates, lecturers, preachers, and incumbents, on being licensed, instituted, or collated; and it is in the form already stated in paragraph III. A similar promise is also given by deacons on ordination, that is to say, a general promise that they will "reverently obey "their ordinary and other chief ministers of the "Church, and them to whom the charge and govern- "ment over them is committed, following with a "glad mind and will their godly admonitions." Having regard to the promises thus made at ordination, it has sometimes been thought that the customary oath of canonical obedience, which is nearly the same as the promise of obedience made on ordination, might be dispensed with. Upon the whole, however, it seems to be desirable, that when a curate or incumbent enters upon a new cure, he should bind himself specifically to obey the bishop under whose jurisdiction he is about to come.

Oath against Simony.

XXVIII. The next oath is the oath against simony. That oath has been set forth in paragraph XIII. It seems to require some qualification; for the law on the subject of simony is involved in so much doubt that persons who have devoted special attention to it are often at a loss in advising as to a particular agreement whether it is or is not simoniacal. The Statutes on which it depends are numerous. Those Statutes are supposed by some to be confirmatory of the Canon Law (44), and not to supersede it; and as the Canon admits of a wider interpretation than the Statute law, it is confidently asserted that a clergyman may be guilty of a simoniacal contract, though he was not privy to that contract himself. Certainly there have been cases where the Ecclesiastical Courts have proceeded against a simonist, *pro salute animæ*, where the temporal Courts would not have interfered. Under these circumstances it seems hardly right to call upon a clergyman, on institution to a living, to swear positively that he has not made any simoniacal contract, when it is very possible that he may have made a contract which by law is simoniacal, though he did it ignorantly and without design. Some alteration in the law is therefore requisite.

Oaths of Allegiance and Supremacy.

XXIX. The foregoing oaths affect the clergy in their Ecclesiastical character only. There is another class of obligations, by which the clergy are bound, not only in their ecclesiastical character, but also in their civil capacity. These consist of the Statutes and Canons already enumerated relating to the supremacy of the Crown. The oath of the Queen's sovereignty was early embodied in the Ordination Service. But the solemnity of the religious service is weakened by the interpolation of the oath in the midst of it, and since the recognition of the Queen's Sovereignty could as well be made by the candidate for Holy Orders before Ordination, and by curates, lecturers, and incumbents on being licensed, instituted, or collated to any Ecclesiastical benefice or office, it would seem to follow that the administration of the Oaths of Allegiance and Supremacy during the Ordination Service might be reasonably dispensed with.

Subscription.

XXX. Subscription is enforced partly by Statute Law and partly by Canons. The statutory requirements involve the principle that the profession of faith made by a clergyman, and the obligations which he undertakes on accepting a benefice, should be the subject not merely of Subscription made privately before the Bishop, but also of a declaration made publicly in the presence of the congregation committed to his care. Except in one particular, namely, the declaration of unfeigned assent and consent to all and everything contained in and prescribed by the Book of Common Prayer, these subscriptions add in substance little, if anything, to that which is promised in the Ordination Service and required by the Canons. For instance, the subscription to the Thirty-nine Articles, and the declaration of unfeigned assent to them, as prescribed by the Act of Elizabeth, express a merely limited assent to that which is now given in a fuller form by subscription to the 3rd Article of the 36th Canon; and the promise of conformity to the Liturgy of the Church of England prescribed by the Act of Uniformity is included in the undertaking contained in the 2nd Article of the same Canon, to use the form prescribed in the Book of Common Prayer, and none other. The Canons, therefore, of 1603 may be considered generally as embodying that which both Parliament and Convocation have deemed requisite in the form of subscription. But Parliament has considered, independently of Convocation, that every Clergyman, at the first entrance on his sacred duties, should declare publicly, before his congregation, his assent to the Thirty-nine Articles of Religion, as constituting the code of doctrine by which he is bound to frame his teaching, and to the Book of Common Prayer, as containing the formularies which it is his duty exclusively to use. Thus, the subscriptions and declarations now in use assumed their present form by degrees; something was added at one time by the Legislature and something at another by Convocation, according to that which the circumstances of the time appeared to demand. In revising and simplifying these clerical tests, no valid reason can be assigned why the Subscription by which the Clergyman binds himself to the Church, and the Declaration by which he binds himself to his congregation, should be expressed in different terms. Both relate to the same subject matter, and ought to impose the same obligations. If two distinct forms were adopted, endless questions and arguments would, in all probability, arise, first, as to the reason for the difference, and, secondly, as to the bearing of one form on the construction of the other; and thereby, it is to be feared, the true meaning and intention of each would be brought into doubt. To avoid such a consequence it is important to consider whether the 2nd and 3rd Articles of the 36th Canon, as they now stand, or with some slight variations not affecting their substance, might not constitute, or be made to constitute, the best and simplest form of declaration. The question then arises what (if any) should be those variations.

XXXI. In the first place, the marked distinction between the assent required by the Canon to the Book of Common Prayer and that required to the Thirty-nine Articles leads to misapprehension. As to the Book of Common Prayer, the subscriber is called upon to declare that "it containeth in it "nothing contrary to the Word of God, and that it "may lawfully be so used." As to the Articles, the Subscriber is called upon to acknowledge that "all "and every Articles therein contained are agreeable "to the Word of God." This difference of expression, the negative form being used in one case and the affirmative form in the other, seems to have arisen from this circumstance, that in early times the more violent of the Nonconformists not merely objected to

(44) Simony, 40th Canon.—"No one who is at all conversant "with the legal writings and commentaries of the Canonists "can read this fortieth canon without being convinced that it is "deeply imbued with the soundest principle of the Canon Law "on the subject of simony; and as it is universally binding on "the clergy, and professes to expound the discipline of the "Church of England on this point, it becomes the bounden duty "of every ecclesiastical jurisdiction, however constituted, to "give force to the due execution of the law to the fullest effect." —*Per Dr. Phillimore, in the Dean of York's case, quoted in the Queen's Advocate's Ed. of Burn*, pp. 606, 607, 609, 611.

a prescript form of prayer, but they also pushed their zeal so far as to say that parts of the Common Prayer Book were repugnant to the Scriptures. It was probably to meet this particular objection that the negative form of expression was made use of as applicable to the Common Prayer Book; though it must be admitted that if there were anything really in that book which was repugnant to Scripture, it would be as unjustifiable to call upon the subscriber to say that everything contained in it was agreeable to the Word of God as it would be to call upon him to say that nothing contained in it was contrary to the Word of God. Assuming, then, that the two forms of expression are nearly identical in substance and effect, it can hardly be disputed that an affirmative declaration is preferable to one which is purely negative.

XXXII. But then, in the second place, such a declaration ought not to cover more ground than it is intended to cover; and in settling exactly what that should be, there is probably no rule so just, so wise, or so safe as that which is laid down by Jeremy Taylor in his Rule of Conscience:—"He "that subscribes," says that good and thoughtful divine, "must do it to those purposes and in that "sense and signification of things which the Supreme "Power intends in his commanding it; that is, at "least, that he who subscribes does actually approve "the Articles over-written, that he does at that time "believe them to be such as it is said they are; true, "if they only say they are true:—useful, if they "pretend to usefulness:—necessary, if it be affirmed "that they be necessary." Jeremy Taylor adds that "if the subscriber believes not this, then he by "hypocrisy secures the ends of public peace and his "own preferment." And it may further be added that if the subscriber does believe this, that is to say, if he is willing to subscribe to them according to their truth, usefulness, and necessity, he ought not to be burdened by any obligation which would require him to do more. In conformity with the above rule this obligation would properly require him to declare his general assent and allowance to the Articles of Religion and to the Formularies, to avow his particular belief in the doctrines as therein set forth, and to promise the use of those forms which have been prescribed for the Public Service of the Church.

XXXIII. In the third place, however, scruples have been raised with reference to the strict and exclusive requirements apparently contained in the latter promise, as now enjoined by the 36th Canon. The promise is that he will use the form in the Common Prayer Book prescribed *and none other*. These words are taken from the first Act of Uniformity, passed in the reign of Edward VI., whereby all and singular the ministers of every cathedral and parish "church were bounden to say and use the "Mattens, Evensong, &c., and all their common and "open prayer in such order and form as mentioned "in the same book, and none other or otherwise." And as this statute was confirmed by the 5 & 6 Edw. VI. c. 1, and set up again after its repeal under Mary by the 1 Eliz. c. 2, and kept alive by the 13 & 14 Car. II. c. 14. s. 24, the Statute Law as well as the Canon has always contained the same requirement. It has already been suggested that custom and authority are alike in favour of interpreting the words "none other" in the sense of "instead of," that is to say, that if the form prescribed is used and followed, other prayers may likewise be introduced on particular occasions. It has also been suggested that the Occasional Services cannot rest on the same reasoning, because in these Services other prayers have been introduced *instead of those* prescribed by the Act of Charles. But then if that matter were ever brought to a decision, it would probably be held that there was and is a power in the Crown through the Archbishops and Bishops to direct these services specially to be used on special occasions. Since, however, it can hardly be denied that some uncertainty exists on the subject, it would be advisable to clear up that uncertainty by qualifying the promise to this extent, that the minister will use the form prescribed and none other "except so far as shall be "ordered by lawful authority."

XXXIV. Bearing then in mind all the difficulties which surround the subject, the form agreed upon by the Commissioners appears to meet every point; but the exception added to it requires some remark. The form is as follows:—

I, A.B., *do solemnly make the following declaration:—*

I assent to the Thirty-nine Articles of Religion, and to the Book of Common Prayer, and of Ordering of Bishops, Priests, and Deacons: I believe the doctrine of the United Church of England and Ireland, as therein set forth, to be agreeable to the Word of God: and in Public Prayer and Administration of the Sacraments I will use the form in the said Book prescribed, and none other, except so far as shall be ordered by lawful authority.

Here a question will naturally arise, what is the extent and full force of that exception? Some observations on it may possibly be useful.

1. By the 21st section of the Act of Uniformity it is provided that "in all those prayers which in any "way relate to the King, Queen, or Royal Progeny, "the name be altered and changed from time to time, "and fitted to the present occasion, according to the "direction of lawful authority." Lawful authority in this case has been considered practically to mean the command or order of the Crown, signified to the Metropolitan through the Secretary of State, by whom the order is countersigned.

2. With regard to the Occasional Prayers and Services, these have been ordered in a similar manner; but the order has been varied in point of form to this extent, that it has sometimes been made by Warrant under the Royal Sign Manual, sometimes by Royal Proclamation, and sometimes by the King or Queen in Council. How far the recent opinion of the law officers of the Crown may have affected this power, it is impossible to say. ([45])

3. When Parliament has directed certain things to be done which indirectly affect the form prescribed by the Book of Common Prayer, as that the words of the Oaths of Allegiance and Supremacy should be changed, or that the publication of the Banns of Marriage should be made at a particular part of the Service, the form prescribed has so far been altered as to give effect to the new enactment. Thus the old Oath of Sovereignty in the Ordination Service was changed for the new Oath of Allegiance and Supremacy at the time of the Revolution; and the rubric which directed the Banns to be published "immediately before the Sentences of the Offertory" was ultimately omitted, and another rubric introduced, stating, according to the requirement ([46]) of the Statute, that the Banns must be published "imme-"diately after the Second Lesson."

4. Under the 26th section of the 1st Eliz. c. 2, it was enacted that "if there shall happen to be any "contempt or irreverence to be used in the Cere-"monies or Rites of the Church, the Queen's Majesty "may, by the advice of Commissioners (appointed "and authorized under the Great Seal of England "for Clauses Ecclesiastical) or Metropolitan, ordain "and publish such further Ceremonies or Rites as "may be most to the advancement of God's glory, for "the edifying of His Church, and due reverence of "Christ's Holy Mysteries and Sacraments." Pursuant to this Clause, Queen Elizabeth authorized the Archbishop and certain Commissioners to peruse the order of the Lessons throughout the whole year, and to cause some new calendars to be imprinted, whereby chapters of less edification might be removed, and others more profitable might supply ([47]) their room;

([45]) See *supra*, Paragraph XII.

([46]) 26 Geo. II. c. 11. s. 33. The old rubrics were continued for many years after this Act was passed.

([47]) Gibs. Codex, p. 271, edition 1761, and see Strypes' Life of Parker, p. 29.

and since the whole Statute has been kept alive by the Act of Uniformity, it may be contended that for some purposes this power might still be exercised. If that be so, lawful authority would mean such a power as that which was reserved by this section of the Statute of Elizabeth; but for what purposes it might still be exercised is extremely doubtful. As regards the Lectionary, probably it would be held that the power was exhausted by what was done in the reign of Elizabeth. As regards other matters, it does not appear to have been exercised at all, and, therefore, without a declaratory statute, it might be questionable whether such a power could now be put in force.

5. Lawful authority would lastly mean, according to long-established usage, the power of the Diocesan to relax the strict letter of the Rubric in certain cases; *e.g.*, to sanction one instead of two Services where the circumstances of the parish do not require more; or to allow the Communion Service to be read at a different hour from the rest of the Morning Service. The rule upon this subject has thus been stated by Sir J. Nicol: (48) "The Church Service, according to "the form prescribed in the Book of Common Prayer, "is to be regularly performed every Sunday in the "morning and evening; if less duty is required, it is "to be supposed that the relaxation has been adopted "with the approbation of the Diocesan, and has been "permitted owing to the circumstances of the parish; "and as the Service is to be performed for the use of "the parishioners, such relaxation may properly be "granted in certain cases; but if it be so granted, "the Minister must strictly adhere to the terms pre-"scribed, and must not vary them at his own pleasure, "for his own convenience, and on his own authority. "It is for the Diocesan who is to judge of the degree "of relaxation to be allowed."

In these five instances the words "lawful authority" might properly be defined to mean what it has been hitherto considered to mean by express direction or by long-established usage. There would be some difficulty in determining the exact limits to which that authority in the last two instances might be allowed to extend. But that some power should exist of regulating ceremonies which may lead to irreverence, or of relaxing the strict letter of the rubric, where circumstances may require such a relaxation, can hardly be doubted.

XXXV. Two other observations may reasonably be deduced from the previous statement.

The first is, that with regard to the time and manner of making Subscriptions, such opportunities should be taken as heretofore for giving to the Bishop a sufficient assurance of the fitness of the person about to be ordained, and to the parish a public guarantee of his consent and conformity to the doctrine and discipline of the Established Church.

The second is, that since these matters were previously settled with the joint concurrence of Convocation and Parliament, it would seem desirable that similar steps should now be taken, so as to secure the full consent of the Clergy and Laity to any alterations which concern or affect either the Doctrine or the Ritual of the established religion of the country.

S. H. WALPOLE.

(48) Bennett *v.* Bonaher, 2 Hagg. Eccl. Rep., p. 27.

APPENDIX No. 8.

Documents referred to in Appendix No. 7.

M.

Oath of Obedience taken by the Bishops to the Pope and the See of Rome.—(*Vide* Gibson's Codex, Vol. I., pp. 116, 117, ed. 1761.)

"I John, Bishop or Abbot of A., from this hour "forward shall be faithful and obedient to S. Peter, "and to the Holy Church of Rome, and to my Lord "the Pope and his Successors canonically entering. "I shall not be of Counsel nor Consent, that they shall "lose either Life or Member, or shall be taken or suffer "any violence or any wrong by any means. Their "Counsel to me credited by them, their Messengers "or Letters I shall not willingly discover to any Per-"son. The Papacy of Rome, the Rules of the Holy "Fathers, and the Regality of S. Peter, I shall help, "and maintain, and defend against all men. The "Legat of the See Apostolic going and coming I "shall honourably entreat. The Rights, Honours, "Privileges, Authorities of the Church of Rome, and "of the Pope and his Successors, I shall cause to be "conserved, defended, augmented, and promoted. "I shall not be in Council, Treaty, or any Act in "the which anything shall be imagined against him "or the Church of Rome, their Rights, Seats, "Honours, or Powers. And if I know any such "to be moved or compassed, I shall resist it to "my Power, and as soon as I can I shall advertise "him, or such as may give him knowledge. The "Rules of the Holy Fathers, the Decrees, Ordinances, "Sentences, Dispositions, Reservations, Provisions, "and Commandments Apostolic, to my power I shall "keep, and cause to be kept of others. Heretics, "Schismatics, and Rebels to our Holy Father and his "Successors I shall resist and persecute to my power. "I shall come to the Synod when I am called, except "I be letted by a canonical impediment. The "Thresholds of the Apostles I shall visit yearly "personally, or by my Deputy. I shall not alienate "or sell my Possessions without the Pope's Counsel. "So God help me and the Holy Evangelists."

Oath of Obedience taken by the Bishops to the King.—(*Vide* Gibson's Codex, Vol. I., p. 117, ed. 1671.)

I John, Bishop of A., utterly renounce and clearly forsake all such Clauses, Words, Sentences, and Grants which I have or shall have hereafter of the Pope's Holiness, of or for the Bishopric of A., that in anywise hath been, is, or hereafter may be hurtful or prejudicial to Your Highness, your Heirs, Successors, Dignity, Privilege, or Estate Royal.*

* The rest is an Oath of Obedience to the King in *Temporal Matters.*

N.

The OATH of the KING'S SUPREMACY as administered in the ordering of Deacons in the Reign of Edward VI.

"I from henceforth shall utterly renounce, refuse, relinquish, and forsake the Bishop of Rome and his authority, power, and jurisdiction. And I shall never consent nor agree that the Bishop of Rome shall practise, exercise, or have any manner of authority, jurisdiction, or power within this Realm, or any other the King's dominions, but shall refuse the same at all times to the uttermost of my power. And I from henceforth will accept, repute, and take the King's Majesty to be the only Supreme Head in Earth of the Church of England. And to my cunning wit and uttermost of my power, without guile, fraud, or other undue means, I will observe, keep, maintain, and defend the whole effects and contents of all and singular Acts and Statutes made and to be made within this Realm in derogation, extirpation, and extinguishment of the Bishop of Rome and his authority, and all other Acts and Statutes made and to be made in confirmation and corroboration of the King's power, of the Supreme Head in Earth of the Church of England. And this I will do against all manner of persons, of what estate, dignity, or degree, or condition they be, and in no wise do, nor attempt, nor to my power suffer to be done or attempted, directly or indirectly, any thing or things privily or apertly to the let, hindrance, damage, or derogation thereof, or any part thereof, by any manner of means or for any manner of pretence. And in case any oath be made or hath been made by me to any person or persons, in maintenance, defence, or favour of the Bishop of Rome, or his authority, jurisdiction, or power, I repute the same as vain and annihilate. So help me God through Jesus Christ."

The OATH of the QUEEN'S SOVEREIGNTY as administered in the Reign of Queen Elizabeth.

"I *A.B.* do utterly testifie and declare in my conscience that the Queen's Highness is the only Supreme Governour of this Realm, and of all other her Highnesses dominions and countreys, as well in all ecclesiastical things or causes as temporal; and that no foreign Prince, Person, State, or Potentate hath or ought to have any jurisdiction, power, supremacy, pre-eminence, or authority Ecclesiastical or Spiritual, within this Realm. And therefore I do utterly renounce and forsake all foreign jurisdictions, powers, superiorities, and authorities, and do promise that from henceforth I shall bear faith and true allegiance to the Queen's Highness, her heirs and lawful successors, and to my power shall assist and defend all jurisdictions, privileges, pre-eminences, and authorities granted or belonging to the Queen's Highness, her heirs and successors, or united and annexed to the Imperial Crown of this Realm. So help me God and the contents of this Book."

The OATH of the QUEEN'S SOVEREIGNTY as now administered in the Ordination Service.

"I *A.B.* do swear, that I do from my heart abhor, detest, and abjure, as impious and heretical, that damnable Doctrine and Position, That Princes excommunicated or deprived by the Pope, or any Authority of the See of Rome, may be deposed or murdered by their Subjects, or any other whatsoever. And I do declare, that no foreign Prince, Person, Prelate, State, or Potentate, hath, or ought to have, any Jurisdiction, Power, Superiority, Pre-eminence or Authority, Ecclesiastical or Spiritual, within this Realm. *So help me God.*"

O.

2 & 3 EDWARD VI. CAP. I.

An Act for the Uniformity of Service and Administration of the Sacraments throughout the Realm.

'WHERE of long Time there hath been had in this Realm of *England* and in *Wales* divers Forms of Common Prayer, commonly called the Service of the Church; that is to say, The Use of *Sarum*, of *York*, of *Bangor*, and of *Lincoln*; and besides the same now of late much more divers and sundry Forms and Fashions have been used in the Cathedral and Parish Churches of *England* and *Wales*, as well concerning the Mattens or Morning Prayer and the Evensong, as also concerning the Holy Communion, commonly called the Mass, with divers and sundry Rites and Ceremonies concerning the same, and in the Administration of other Sacraments of the Church: And as the Doers and Executors of the said Rites and Ceremonies, in other Form than of late Years they have been used, were pleased therewith: So other not using the same Rites and Ceremonies were thereby greatly offended: And albeit the King's Majesty, with the Advice of his most entirely beloved Uncle the Lord Protector, and other of his Highness Council, hath heretofore divers Times assayed to stay Innovations or new Rites concerning the Premisses; yet the same hath not had such good Success as his Highness required in that Behalf; whereupon his Highness, by the most prudent Advice aforesaid, being pleased to bear with the Frailty and Weakness of his Subjects in that Behalf, of his great Clemency hath not been only content to abstain from Punishment of those that have offended in that Behalf, for that his Highness taketh that they did it of a good Zeal; but also to the Intent a uniform, quiet, and godly Order should be had concerning the Premisses, hath appointed the Archbishop of *Canterbury*, and certain of the most learned and discreet Bishops, and other learned Men of this Realm, to consider and ponder the Premisses; and thereupon having as well Eye and Respect to the most sincere and pure Christian Religion taught by the Scripture, as to the Usages in the Primitive Church, should draw and make one convenient and meet Order, Rite and Fashion of common and open Prayer and Administration of the Sacraments, to be had and used in his Majesty's Realm of *England* and in *Wales*; the which at this Time, by the aid of the Holy Ghost, with one uniform Agreement is of them concluded, set forth and delivered to his Highness, to his great Comfort and Quietness of Mind, in a Book intituled *The Book of the Common Prayer and Administration of the Sacraments, and other*

'*Rites and Ceremonies of the Church, after the Use of the Church of* England. Wherefore the Lords Spiritual and Temporal, and the Commons, in this present Parliament assembled, considering as well the most godly Travel of the King's Highness, of the Lord Protector, and of other his Highness Council, in gathering and collecting the said Archbishop, Bishops and learned Men together, as the godly Prayers, Orders, Rites and Ceremonies in the said Book mentioned, and the Considerations of altering those Things which be altered, and retaining those Things which be retained in the said Book, but also the Honour of God and great Quietness, which by the Grace of God shall ensue upon the one and uniform Rite and Order in such Common Prayer and Rites and external Ceremonies to be used throughout *England* and in *Wales*, at *Calice* and the Marches of the same, do give to his Highness most hearty and lowly thanks for the same:' And humbly prayen, that it may be ordained and enacted by his Majesty, with the Assent of the Lords and Commons in this present Parliament assembled, and by the Authority of the same, That all and singular Person and Persons that have offended concerning the Premisses, other than such Person and Persons as now be and remain in Ward in the Tower of *London*, or in the *Fleet*, may be pardoned thereof; and that all and singular Ministers in any Cathedral or Parish Church or other Place within this Realm of *England*, *Wales*, *Calice*, and the Marches of the same, or other the King's Dominions, shall from and after the Feast of *Pentecost* next coming, be bounden to say and use the Mattens, Evensong, Celebration of the Lord's Supper, commonly called the Mass, and Administration of each of the Sacraments, and all their common and open Prayer, in such Order and Form as is mentioned in the same Book, and none other or otherwise. And albeit that the same be so godly and good, that they give Occasion to every honest and conformable Man most willingly to embrace them, yet lest any obstinate Person who willingly would disturb so godly Order and Quiet in this Realm should not go unpunished, that it may also be ordained and enacted by the Authority aforesaid, that if any Manner of Parson, Vicar, or other whatsoever Minister, that ought or should sing or say Common Prayer mentioned in the said Book, or minister the Sacraments, shall after the said Feast of *Pentecost* next coming refuse to use the said Common Prayers, or to minister the Sacraments in such Cathedral or Parish Church, or other Places as he should use or minister the same, in such Order and Form as they be mentioned and set forth in the said Book; or shall use, wilfully and obstinately standing in the same, any other Rite, Ceremony, Order, Form or Manner of Mass openly or privily, or Mattens, Evensong, Administration of the Sacraments, or other open Prayer than is mentioned and set forth in the said Book: (Open Prayer, in and throughout this Act, is meant that Prayer which is for other to come unto or hear, either in common Churches or private Chapels or Oratories, commonly called the Service of the Church); or shall preach, declare, or speak any Thing in the Derogation or Depraving of the said Book, or any Thing therein contained, or of any Part thereof; and shall be thereof lawfully convicted according to the Laws of this Realm, by Verdict of Twelve Men, or by his own Confession, or by the notorious Evidence of the Fact, shall lose and forfeit to the King's Highness, his Heirs and Successors, for his first Offence, the Profit of such one of his Spiritual Benefices or Promotions as it shall please the King's Highness to assign or appoint, coming and arising in one whole Year next after his Conviction: And also that the same Person so convicted shall for the same Offence suffer Imprisonment by the Space of Six Months, without Bail or Mainprise: And if any such Person once convict of any suchOffence concerning the Premisses, shall after his first conviction eftsoons offend and be thereof in Form aforesaid lawfully convict, that then the same Person shall for his second Offence suffer Imprisonment by the Space of One whole Year, and also shall therefore be deprived *ipso facto* of all his Spiritual Promotions; and that it shall be lawful to all Patrons, Donors, and Grantees of all and singular the same Spiritual Promotions, to present to the same any other able Clerk, in like Manner and Form as though the Party so offending were dead: And that if any such Person or Persons, after he shall be twice convicted in Form aforesaid, shall offend against any of the Premisses the third Time, and shall be thereof in Form aforesaid lawfully convicted, that then the Person so offending and convicted the third Time, shall suffer Imprisonment during his Life: And if the Person that shall offend and be convict in Form aforesaid concerning any of the Premisses, shall not be beneficed, nor have any Spiritual Promotion, that then the same Person so offending and convict shall for the first Offence suffer Imprisonment during Six Months, without Bail or Mainprise: And if any such Person not having any Spiritual Promotion, after his first Conviction shall eftsoons offend in any Thing concerning the Premisses, and shall in Form aforesaid be thereof lawfully convicted, that then the same Person shall for his second Offence suffer Imprisonment during his Life.

II. And it is ordained and enacted by the Authority abovesaid, That if any Person or Persons whatsoever, after the said Feast of *Pentecost* next coming, shall in any Enterludes, Plays, Songs, Rhimes, or by other open Words, declare or speak any Thing in the Derogation, Depraving, or Despising of the same Book, or of any Thing therein contained, or any Part thereof; or shall by open Fact, Deed, or by open Threatenings, compel or cause, or otherwise procure or maintain any Parson, Vicar or other Minister in any Cathedral or Parish Church, or in any Chapel or other Place, to sing or say any common and open Prayer, or to minister any Sacrament otherwise, or in any other Manner or Form than is mentioned in the said Book; or that by any of the said Means shall unlawfully interrupt or let any Parson, Vicar or other Ministers in any Cathedral or Parish Church, Chapel or any other Place, to sing or say common and open Prayer, or to minister the Sacraments, or any of them, in any such Manner and Form as is mentioned in the said Book; that then every Person being thereof lawfully convicted in Form abovesaid, shall forfeit to the King our Sovereign Lord, his Heirs and Successors, for the first Offence Ten Pounds. And if any Person or Persons, being once convicted of any such Offence, eftsoons offend against any of the Premisses, and shall in Form aforesaid be thereof lawfully convict, that then the same Persons so offending and convict, shall for the second offence forfeit to the King our Sovereign Lord, his Heirs and Successors, Twenty Pounds: And if any Person after he in Form aforesaid shall have been twice convict of any Offence concerning any of the Premisses, shall offend the third Time, and be thereof in Form abovesaid lawfully convict, that then every Person so offending and convict shall for his third Offence forfeit to our Sovereign Lord the King all his Goods said Chattels, and shall suffer Imprisonment during his Life: And if any Person or Persons, that for his first Offence concerning the Premises shall be convict in Form aforesaid, do not pay the Sum to be paid by Vertue of his Conviction, in such Manner and Form as the same ought to be paid, within Six Weeks next after his Conviction, that then every Person so convict, and so not paying the same, shall for the same first Offence, instead of the said Ten Pound, suffer Imprisonment by the Space of Three Months, without Bail or Mainprise. And if any Person or Persons, that for his second Offence concerning the Premisses shall be convict in Form aforesaid, do not pay the Sum to be paid by Vertue of his Conviction, in such Manner and Form as the same ought to be paid, within Six Weeks next after his said second Conviction, that then every Person so convicted, and not so paying the same, shall for the same second Offence, in the Stead of the said Twenty Pounds,

Not using Book of Common Prayer, &c. according to the Use of the Church of England.

Using any other Manner of Prayer.

Depraving the Book.

First Offence. Penalty.

Second Offence. Penalty.

Third Offence. Penalty.

Imprisonment.

Depraving Book of Common Prayer by Plays, Songs or Tunes, or compelling any to use other Prayer.

Fhirst Offence. Penalty.

Second Offence. Penalty.

Third Offence. Penalty

Further Penalties.

suffer Imprisonment during Six Months, without Bail or Mainprise.

Justices of Oyer, &c. may hear and determine Offences.

III. And it is ordained and enacted by the Authority aforesaid, That all and every Justices of *Oyer* and *Determiner*, or Justices of Assize, shall have full Power and Authority in every of their open and general Sessions to enquire, hear, and determine all and all Manner of Offences that shall be committed or done contrary to any Article contained in this present Act, within the Limits of the Commission to them directed, and to make Process for the Execution of the same, as they may do against any Person being indicted before them of Trespass, or lawfully convicted thereof.

A Bishop may join with the Justice.

IV. Provided always, and be it enacted by the Authority aforesaid, That all and every Archbishop and Bishop shall or may at all Time and Times at his Liberty and Pleasure join and associate himself by Virtue of this Act to the said Justices of *Oyer* and *Determiner*, or to the said Justices of Assise, at every of the said open and general Sessions to be holden in any Place within his Diocese, for and to the Enquiry, Hearing and Determining of the Offences aforesaid.

Who may use Prayers in another Language.

V. Provided always, That it shall be lawful to any Man that understandeth the *Greek*, *Latin*, and *Hebrew* Tongue, or other strange Tongue, to say and have the said Prayers heretofore specified of Mattens and Evensong in *Latine*, or any such other Tongue, saying the same privately, as they do understand.

Universities.

VI. And for the further encouraging of Learning in the Tongues in the Universities of *Cambridge* and *Oxford*, to use and exercise in their common and open Prayer in their Chapels (being no Parish Churches) or other Places of Prayer, the Mattens, Evensong, Letany, and all other Prayers (the Holy Communion, commonly called the Mass, excepted) prescribed in the said Book, in *Greek*, *Latine* or *Hebrew*; any Thing in this present Act to the contrary notwithstanding.

Proviso.

VII. Provided also, That it shall be lawful for all Men, as well in Churches, Chapels, Oratories, or other Places, to use openly any Psalms or Prayer taken out of the Bible, at any due Time, not letting or omitting thereby the Service or any Part thereof mentioned in the said Book.

When the Service Book shall be gotten.

VIII. Provided also, and be it enacted by the Authority aforesaid, That the Books concerning the said Services shall, at the Costs and Charges of the Parishioners of every Parish and Cathedral Church, be attained and gotten before the Feast of *Pentecost* next following, or before; and that all such Parishes and Cathedral Churches, or other Places where the said Books shall be attained and gotten before the said Feast of *Pentecost*, shall within Three Weeks next after the said Books so attained and gotten use the said Service, and put the same in Ure according to this Act.

Indictment.

IX. And be it further enacted by the Authority aforesaid, That no Person or Persons shall be at any Time hereafter impeached or otherwise molested of or for any of the Offences above mentioned, hereafter to be committed or done contrary to this Act, unless he or they so offending be thereof indicted at the next General Sessions to be holden before any such of the Justices of *Oyer* and *Determiner*, or Justices of Assise, next after any Offence committed or done contrary to the tenor of this Act.

Proviso.

X. Provided always, and be it ordained and enacted by the Authority aforesaid, That all and singular Lords of the Parliament, for the said Offences above mentioned, shall be tried by their Peers.

Chief Officers of Cities and Corporate Towns may hear and determine these Offences.

XI. Provided also, and be it ordained and enacted by the Authority aforesaid, That the Mayor of *London*, and all other Mayors, Bailiffs and other Head Officers of all and singular Cities, Boroughs and Towns Corporate within this Realm, *Wales*, *Calice*, and the Marches of the same, to the which Justices of Assize do not commonly repair, shall have full Power and Authority by Vertue of this Act to enquire, hear and determine the Offences above said, and every of them yearly, within fifteen Days after the Feast of *Easter* and *St. Michael* the Archangel, in like Manner and Form as Justices of Assise and *Oyer* and *Determiner* may do.

Offences punishable by Ecclesiastical Jurisdiction.

XII. Provided always, and be it ordained and enacted by the Authority aforesaid, that all and singular Archbishops and Bishops, and every of their Chancellors, Commissaries, Archdeacons and other Ordinaries, having any peculiar Ecclesiastical Jurisdiction, shall have full Power and Authority by Vertue of this Act, as well to inquire in their Visitations, Synods, and elsewhere within their Jurisdiction, at any other Time and Place, to take Accusations and Informations of all and every the Things above-mentioned, done, committed or perpetrate within the Limits of their Jurisdiction and Authority, and to punish the same by Admonition, Excommunication, Sequestration or Deprivation, and other Censures and Process, in like Form as heretofore hath been used in like Cases by the King's Ecclesiastical Laws.

But once punished for one Offence.

XIII. Provided always, and be it enacted, That whatsoever Person offending in the Premisses shall for the first Offence receive Punishment of the Ordinary, having a Testimonial thereof under the said Ordinaries Seal, shall not for the same Offence eftsoons be convented before the Justices; and likewise receiving for the said first Offence Punishment by the Justices, he shall not for the same Offence eftsoons receive Punishment of the Ordinary; any Thing contained in this Act to the contrary notwithstanding.

P.

5 & 6 Edward VI. Cap. I.

An Act for the Uniformity of Common Prayer and Administration of the Sacraments.

'WHERE there hath been a very godly Order set forth by the Authority of Parliament, for Common Prayer and Administration of the Sacraments to be used in the Mother Tongue within the Church of *England*, agreeable to the Word of God and the Primitive Church, very comfortable to all good People desiring to live in Christian Conversation, and most profitable to the Estate of this Realm, upon the which the Mercy, Favour and Blessing of Almighty God is in no wise so readily and plenteously poured as by Common Prayers, due using of the Sacraments, and often preaching of the Gospel, with the Devotion of the Hearers: And yet this notwithstanding, a great Number of People in divers Parts of this Realm, following their own Sensuality, and living either without Knowledge or due Fear of God, do wilfully and damnably before Almighty God abstain and refuse to come to their Parish Churches and other Places where Common Prayer, Administration of the Sacraments, and Preaching of the Word of God, is used upon *Sundays* and other Days ordained to be Holydays.'

Every Person shall resort to Parish Church, &c. upon Sundays, &c.

II. For Reformation hereof, Be it enacted by the King our Sovereign Lord, with the Assent of the Lords and Commons in this present Parliament assembled, and by the Authority of the same, That from and after the Feast of *All Saints* next coming, all and every Person and Persons inhabiting within this Realm, or any other the King's Majesty's Dominions, shall diligently and faithfully (having no lawful or reasonable Excuse to be absent) endeavour themselves to resort to their Parish Church or Chapel accustomed; or upon reasonable Let thereof, to some usual Place where Common Prayer and such Service of God shall be used in such Time of Lett, upon every *Sunday*, and other Days ordained and used to be kept as Holydays; and then and there to abide orderly and soberly during the Time of the Common Prayer, Preachings or other Service of God there to be used and ministered; upon Pain of Punishment by the Censures of the Church.

III. And for the due Execution hereof, the King's most Excellent Majesty, the Lords Temporal, and all

the Commons, in this present Parliament assembled, doth in God's Name earnestly require and charge all the Archbishops, Bishops, and other Ordinaries, that they shall endeavour themselves to the uttermost of their Knowledges, that the due and true Execution thereof may be had throughout their Diocesses and Charges, as they will answer before God for such Evils and Plagues wherewith Almighty God may justly punish his People for neglecting this good and wholesome Law.

They which come not to Church may be punished by the Censures of the Church.

IV. And for ther Authority in this Behalf, be it further likewise enacted by the Authority aforesaid, That all and singular the same Archbishops, Bishops and all other their Officers exercising Ecclesiastical Jurisdiction, as well in Place exempt as not exempt, within their Diocesses, shall have full Power and Authority by this Act to reform, correct and punish by Censures of the Church, all and singular Persons which shall offend within any their Jurisdictions or Diocesses, after the said Feast of *All Saints* next coming, against this Act and Statute; any other Law, Statute, Privilege, Liberty or Provision heretofore made, had or suffered to the contrary notwithstanding.

The Book of Common Prayer, with the Form of consecrating Bishops, Priests, Deacons.

'V. And because there hath arisen in the Use and 'Exercise of the aforesaid Common Service in the 'Church heretofore set forth, divers Doubts for the 'Fashion and Manner of the Ministration of the 'same, rather by the Curiosity of the Minister and 'Mistakers, than of any other worthy Cause; there-'fore as well for the more plain and manifest Ex-'planation hereof, as for the more Perfection of the 'said Order of Common Service, in some Places 'where it is necessary to make the same Prayers and 'Fashion of Service more earnest and fit to stir 'Christian People to the true honouring of Almighty 'God;' the King's most excellent Majesty, with the Assent of the Lords and Commons in this present Parliament assembled, and by the Authority of the same, hath caused the aforesaid Order of Common Service, entitled *The Book of Common Prayer*, to be faithfully and godly perused, explained and made fully perfect, and by the aforesaid Authority hath annexed and joined it, so explained and perfected, to this present Statute: Adding also a Form and Manner of making and consecrating of Archbishops, Bishops, Priests and Deacons, to be of like Force, Authority and Value as the same like foresaid Book, intituled *The Book of Common Prayer*, was before, and to be accepted, received, used and esteemed in like Sort and Manner, and with the same Clauses of Provisions and Exceptions, to all Intents, Constructions and Purposes, as by the Act of Parliament made in the second Year of the King's Majesty's Reign was ordained, limited, expressed and appointed for the Uniformity of Service and Administration of the Sacraments throughout the Realm, upon such several Pains as in the said Act of Parliament is expressed. And the said former Act to stand in full Force and Strength, to all Intents and Constructions, and to be applied, practised and put in Ure, to and for the establishing of the Book of Common Prayer, now explained and hereunto annexed, and also the said Form of making of Archbishops, Bishops, Priests and Deacons hereunto annexed, as it was for the former Book.

2 & 3 E. 6. c. 1.

Being present at any other Common Prayer or Sacraments.

VI. And by the Authority foresaid it is now further enacted, That if any Manner of Person or Persons inhabiting and being within this Realm, or any other King's Majesty's Dominions, shall after the said Feast of *All Saints* willingly and wittingly hear and be present at any other Manner or Form of Common Prayer, of Administration of the Sacraments, of making of Ministers in the Churches, or of any other Rites contained in the Book annexed to this Act, than is mentioned and set forth in the said Book, or that is contrary to the Form of sundry Provisions and Exceptions contained in the foresaid former Statute, and shall be thereof convicted according to the Laws of this Realm, before the Justices of Assize, Justices of *Oyer* and *Determiner*, Justices of Peace in their Sessions, or any of them, by the Verdict of twelve Men, or by his or their own Concession or otherwise, shall for the first Offence suffer Imprisonment for six Months, without Bail or Mainprise; and for the second Offence, being likewise convicted as is abovesaid, Imprisonment for one whole Year; and for the third Offence in like Manner, Imprisonment during his or their Lives. And for the more Knowledge to be given hereof, and better Observation of this Law, be it enacted by the Authority aforesaid, That all and singular Curates shall, upon one *Sunday* every Quarter of the Year, during one whole Year next following the foresaid Feast of *All Saints* next coming, read this present Act in the Church at the Time of the most Assembly, and likewise once in every Year following; at the same Time declaring unto the People by the Authority of the Scripture, how the Mercy and Goodness of God hath in all Ages been shewed to his People in their Necessities and Extremities, by Means of hearty and faithful Prayers made to Almighty God, especially where People be gathered together with one Faith and Mind, to offer up their Hearts by Prayer, as the best Sacrifices that Christian Men can yield.

Third Offence. Punishment.

Q.

1 Elizabeth, Cap. II.

An Act for the Uniformity of Common Prayer and Divine Service in the Church, and the Administration of the Sacraments.

'WHERE at the Death of our late Sovereign Lord 'King *Edward* the Sixth there remained one 'uniform Order of Common Service and Prayer, and 'of the Administration of Sacraments, Rites and 'Ceremonies in the Church of *England*, which was 'set forth in one Book, intituled, the Book of Common 'Prayer, and Administration of Sacraments, and 'other Rites and Ceremonies in the Church of *Eng-'land*; authorized by Act of Parliament holden in the 'Fifth and Sixth Years of our said late Sovereign 'Lord King *Edward* the Sixth, intituled, *An Act for 'the Uniformity of Common Prayer, and Adminis-'tration of the Sacraments*; the which was repealed 'and taken away by Act of Parliament in the First 'Year of the Reign of our late Sovereign Lady 'Queen *Mary*, to the great Decay of the due Honour 'of God, and Discomfort to the Professors of the 'Truth of Christ's Religion:'

5 & 6 E. 6. c. 1. 1 M. Sess. 2. c. 2. repealed.

Book of Common Prayer shall be of Effect.

II. Be it therefore enacted by the Authority of this present Parliament, That the said Estatute of Repeal, and every Thing therein contained, only concerning the said Book, and the Service, Administration of the Sacraments, Rites and Ceremonies, contained or appointed in or by the said Book, shall be void and of none Effect, from and after the Feast of the Nativity of *St. John Baptist* next coming; and that the said Book, with the Order of Service, and of the Administration of Sacraments, Rites and Ceremonies, with the Alterations and Additions therein added and appointed by this Estatute, shall stand and be, from and after the said Feast of the Nativity of *St. John Baptist*, in full Force and Effect, according to the Tenor and Effect of this Estatute; any Thing in the aforesaid Estatute of Repeal to the contrary notwithstanding.

Book of Common Prayer shall be used.

III. And further be it enacted by the Queen's Highness, with the Assent of the Lords and Commons in this present Parliament assembled, and by the Authority of the same, That all and singular Ministers in any Cathedral or Parish Church, or other Place within this Realm of *England*, *Wales*, and the Marches of the same, or other the Queen's Dominions, shall, from and after the Feast of the Nativity of *St. John Baptist* next coming, be bounden to say and use the Mattens, Evensong, Celebration of the Lord's Supper and Administration of each of the Sacraments, and all the Common and open Prayer, in such Order and Form as is mentioned in the said Book, so authorized by Parliament in the said Fifth

and Sixth Years of the Reign of King *Edward* the Sixth, with one Alteration or Addition of certain Lessons to be used on every *Sunday* in the Year, and the Form of the Litany altered and corrected, and Two Sentences only added in the Delivery of the Sacrament to the Communicants, and none other or otherwise.

IV. And that if any Manner of Parson, Vicar or other whatsoever Minister, that ought or should sing or say Common Prayer mentioned in the said Book, or minister the Sacraments, from and after the Feast of the Nativity of *St. John Baptist* next coming, refuse to use the said Common Prayers, or to minister the Sacraments in such Cathedral or Parish Church, or other Places as he should use to minister the same, in such Order and Form as they be mentioned and set forth in the said Book; or shall wilfully or obstinately, standing in the same, use any other Rite, Ceremony, Order, Form or Manner of celebrating of the Lord's Supper, openly or privily, or Mattens, Even-song, Administration of the Sacraments, or other open Prayers, than is mentioned and set forth in the said Book; (open Prayer in and throughout this Act, is meant that Prayer which is for others to come unto, or hear, either in Common Churches, or private Chapels or Oratories, commonly called, the Service of the Church); or shall preach, declare, or speak any Thing in the Derogation or depraving of the said Book, or any Thing therein contained, or of any Part thereof, and shall be thereof lawfully convicted, according to the Laws of this Realm, by Verdict of Twelve Men, or by his own Confession, or by the notorious Evidence of the Fact, shall lose and forfeit to the Queen's Highness, her Heirs and Successors, for his First Offence, the Profit of all his Spiritual Benefices or Promotions coming or arising in one whole Year next after his Conviction; And also that the Person so convicted shall for the same Offence suffer Imprisonment for the Space of Six Months without Bail or Mainprise.

V. And if any such Person once convict of any Offence concerning the Premisses shall after his First Conviction eftsoons offend, and be thereof in Form aforesaid lawfully convict, that then the same Person shall for his Second Offence suffer Imprisonment by the Space of one whole Year, and also shall therefore be deprived, *ipso facto*, of all his Spiritual Promotions; and that it shall be lawful to all Patrons or Donors of all and singular the same Spiritual Promotions or of any of them, to present or collate to the same, as though the Person or Persons so offending were dead.

VI. And that if any such Person or Persons, after he shall be Twice convicted in Form aforesaid, shall offend against any of the Premisses the Third Time, and shall be thereof in Form aforesaid lawfully convicted, that then the Person so offending and convicted the Third Time shall be deprived, *ipso facto*, of all his Spiritual Promotions, and also shall suffer Imprisonment during his Life.

VII. And if the Person that shall offend, and be convicted in Form aforesaid, concerning any of the Premisses, shall not be beneficed, nor have any Spiritual Promotion, that then the same Person so offending and convict shall for the First Offence suffer Imprisonment during one whole Year next after his said Conviction, without Bail or Mainprise.

VIII. And if any such Person, not having any Spiritual Promotion, after his First Conviction shall eftsoons offend in any Thing concerning the Premisses, and shall in Form aforesaid be thereof lawfully convicted, that then the same Person shall for his Second Offence suffer Imprisonment during his Life.

IX. And it is ordained and enacted by the Authority aforesaid, That if any Person or Persons whatsoever, after the said Feast of the Nativity of *St. John Baptist* next coming, shall in any Enterludes, Plays, Songs, Rhymes, or by other open Words, declare or speak any Thing in the Derogation, Depraving or Despising of the same Book, or of any Thing therein contained, or any Part thereof; or shall by open Fact, Deed or by open Threatnings, compel or cause, or otherwise procure or maintain, any Parson, Vicar or other Minister in any Cathedral or Parish Church, or in Chapel, or in any other Place, to sing or say any Common or open Prayer, or to minister any Sacrament, otherwise or in any other Manner and Form than is mentioned in the said Book; or that by any of the said Means shall unlawfully interrupt or let any Parson, Vicar or other Minister in any Cathedral or Parish Church, Chapel or any other Place, to sing or say Common and open Prayer, or to minister the Sacraments or any of them, in such Manner and Form as is mentioned in the said Book; that then every such Person being thereof lawfully convicted in Form abovesaid, shall forfeit to the Queen our Sovereign Lady, her Heirs and Successors, for the First Offence an Hundred Marks. First Offence.

X. And if any Person or Persons being once convict of any such Offence, eftsoons offend against any of the last-recited Offences, and shall in Form aforesaid be thereof lawfully convict; that then the same Person so offending and convict shall for the second Offence forfeit to the Queen our Sovereign Lady, her Heirs and Successors, Four hundred Marks. Second Offence.

XI. And if any Person, after he in Form aforesaid shall have been Twice convict of any Offence concerning any of the last recited Offences, shall offend the Third Time, and be thereof in Form abovesaid lawfully convict, that then every Person so offending and convict shall for his Third Offence forfeit to our Sovereign Lady the Queen all his Goods and Chattels, and shall suffer Imprisonment during his Life. Third Offence. Penalty.

XII. And if any Person or Persons, that for his First Offence concerning the Premises shall be convict in Form aforesaid, do not pay the Sum to be paid by virtue of his Conviction, in such Manner and Form as the same ought to be paid, within Six Weeks next after his Conviction; that then every Person so convict, and so not paying the same, shall for the same First Offence, instead of the said Sum, suffer Imprisonment by the Space of Six Months, without Bail or Mainprise. Not paying Forfeiture. First Offence.

XIII. And if any Person or Persons, that for his Second Offence concerning the Premisses shall be convict in Form aforesaid, do not pay the said Sum to be paid by virtue of his Conviction and this Estatute, in such Manner and Form as the same ought to be paid, within Six Weeks next after his said Second Conviction; that then every Person so convicted, and not so paying the same, shall for the same Second Offence, in the stead of the said Sum, suffer Imprisonment during Twelve Months, without Bail or Mainprise. Second Offence. Penalty.

XIV. And that from and after the said Feast of the Nativity of *St. John Baptist* next coming, all and every Person and Persons inhabiting within this Realm, or any other the Queen's Majesty's Dominions, shall diligently and faithfully, having no lawful or reasonable Excuse to be absent, endeavour themselves to resort to their Parish Church or Chapel accustomed, or upon reasonable Let thereof, to some usual Place where Common Prayer and such Service of God shall be used in such Time of Let, upon every *Sunday*, and other Days ordained and used to be kept as Holy Days, and then and there to abide orderly and soberly during the Time of the Common Prayer, Preaching, or other Service of God there to be used and ministered; upon Pain of Punishment by the Censures of the Church, and also upon Pain that every Person so offending shall forfeit for every such Offence Twelve Pence, to be levied by the Churchwardens of the Parish where such Offence shall be done, to the Use of the Poor of the same Parish, of the Goods, Lands and Tenements, of such Offender, by Way of Distress. Every Person shall resort to Church upon Holy Days. Penalty.

XV. And for due Execution hereof, the Queen's most excellent Majesty, the Lords Temporal, and all the Commons in this present Parliament assembled, do in God's Name earnestly require and charge all the Archbishops, Bishops and other Ordinaries, that

they shall endeavour themselves to the uttermost of their Knowledges, that the due and true Execution hereof may be had throughout their Diocess and Charges, as they will answer before God, for such Evils and Plagues wherewith Almighty God may justly punish his People for neglecting this good and wholesome Law.

Ordinary may punish by Censures of the Church.

XVI. And for their Authority in this Behalf, be it further enacted by the Authority aforesaid, That all and singular the said Archbishops, Bishops, and all other their Officers exercising Ecclesiastical Jurisdiction, as well in Place exempt as not exempt, within their Diocess, shall have full Power and Authority by this Act to reform, correct and punish by Censures of the Church, all and singular Persons which shall offend within any their Jurisdictions or Diocess, after the said Feast of the Nativity of *St. John Baptist* next coming, against this Act and Statute; any other Law, Statute, Privilege, Liberty or Provision heretofore made, had or suffered, to the contrary notwithstanding.

What Justices may punish these Offences.

XVII. And it is ordained and enacted by the Authority aforesaid, That all and every Justices of *Oyer* and *Determiner*, or Justices of Assize, shall have full Power and Authority in every of their open and general Sessions, to enquire, hear and determine all and all manner of Offences that shall be committed or done contrary to any Article contained in this present Act within the Limits of the Commission to them directed, and to make process for the Execution of the same, as they may do against any Person being indicted before them of Trespass, or lawfully convicted thereof.

A Bishop may join with the Justices.

XVIII. Provided always, and be it enacted by the Authority aforesaid, That all and every Archbishop and Bishop shall or may at all Time and Times, at his Liberty and Pleasure, join and associate himself, by virtue of this Act, to the said Justices of *Oyer* and *Determiner*, or to the said Justices of Assize, at every of the said open and general Sessions to be holden in any Place within his Diocess, for and to the Enquiry, Hearing and Determining of the Offences aforesaid.

At whose Charges the Book of Common Prayer shall be gotten.

XIX. Provided also, and be it enacted by the Authority aforesaid, That the Books concerning the said Services shall at the Costs and Charges of the Parishioners of every Parish and Cathedral Church, be attained and gotten before the said Feast of the Nativity of *St. John Baptist* next following; and that all such Parishes and Cathedral Churches, or other Places, where the said Books shall be attained and gotten before the said Feast of the Nativity of *St. John Baptist*, shall within Three Weeks next after the said Books so attained and gotten use the said Service, and put the same in Ure according to this Act.

Within what Time Offenders shall be impeached.

XX. And be it further enacted by the Authority aforesaid, That no Person or Persons shall be at any Time hereafter impeached or otherwise molested of or for any of the Offences above mentioned, hereafter to be committed or done contrary to this Act, unless he or they so offending be thereof indicted at the next General Sessions to be holden before any such Justices of *Oyer* and *Determiner* or Justices of Assise, next after any Offence committed or done contrary to the Tenor of this Act.

Trial of Peers.

XXI. Provided always, and be it ordained and enacted by the Authority aforesaid, That all and singular Lords of the Parliament, for the Third Offence above mentioned, shall be tried by their Peers.

Chief Officers of Cities, &c. shall enquire of Offenders.

XXII. Provided also, and be it ordained and enacted by the Authority aforesaid, That the Mayor of *London* and all other Mayors, Bailiffs and other Head Officers of all and singular Cities, Boroughs and Towns Corporate within this Realm, Wales, and the Marches of the same, to the which Justices of Assize do not commonly repair, shall have full Power and Authority by virtue of this Act to enquire, hear and determine the Offences abovesaid, and every of them, yearly within Fifteen Days after the Feast of *Easter*, and *St. Michael* the Archangel, in like Manner and Form as Justices of Assize and *Oyer* and *Determiner* may do.

The Ordinary's Jurisdiction.

XXIII. Provided always, and be it ordained and enacted by the Authority aforesaid, That all and singular Archbishops and Bishops, and every of their Chancellors, Commissaries, Archdeacons and other Ordinaries, having any peculiar Ecclesiastical Jurisdiction, shall have full Power and Authority by virtue of this Act as well to inquire in their Visitation, Synods, and elsewhere within their Jurisdiction at any other Time and Place, to take Accusations and Informations of all and every the Things above mentioned done, committed or perpetrated within the Limits of their Jurisdictions and Authority, and to punish the same by Admonition, Excommunication, Sequestration or Deprivation, and other Censures and Process, in like Form as heretofore hath been used in like Cases by the Queen's Ecclesiastical Laws.

One Punishment for one Offence.

XXIV. Provided always, and be it enacted, That whatsoever Persons offending in the Premisses shall for their Offences first receive Punishment of the Ordinary, having a Testimonial thereof under the said Ordinary's Seal, shall not for the same Offence eftsoons be convicted before the Justices: And likewise receiving for the said Offence Punishment first by the Justices, shall not for the same Offence eftsoons receive Punishment of the Ordinary; any Thing contained in this Act to the contrary notwithstanding.

Ornaments of the Church and Ministers.

XXV. Provided always, and be it enacted, That such Ornaments of the Church and of the Ministers thereof, shall be retained and be in Use, as was in this Church of *England* by Authority of Parliament, in the Second Year of the Reign of King *Edward* the Sixth, until other Order shall be therein taken by the Authority of the Queen's Majesty, with the Advice of her Commissioners appointed and authorized under the Great Seal of *England* for Causes Ecclesiastical, or of the Metropolitan of this Realm.

XXVI. And also, That if there shall happen any Contempt or Irreverence to be used in the Ceremonies or Rites of the Church, by the misusing of the Orders appointed in this Book, the Queen's Majesty may, by the like Advice of the said Commissioners or Metropolitan, ordain and publish such further Ceremonies or Rites, as may be most for the Advancement of God's Glory, the Edifying of his Church, and the due Reverence of Christ's Holy Mysteries and Sacraments.

All Laws and Ordinances made for other Service void.

XXVII. And be it further enacted by the Authority aforesaid, That all Laws, Statutes and Ordinances, wherein or whereby any other Service, Administration of Sacraments or Common Prayer, is limited, established or set forth to be used within this Realm, or any other the Queen's Dominions or Countries, shall from henceforth be utterly void and of none Effect.

R.

Archbishop Parker's Advertisements.—

From Cardwell's Documentary Annals of the Church of England, No. LXIV., Vol. I., p. 321.

LXV.

Archiepisc. Cant. Matth. Parker 6. | Anno Christi 1564. | Reg. Angliæ. Elizab. 7.

Advertisements partly for due order in the publique administration of common prayers, and usinge the holy sacramentes, and partly for the apparell of all persons ecclesiasticall, by vertue of the queenes majesties letters commaunding the same, the 25th day of January, in the seventh yeare of the raigne of our soveraigne lady Elizabeth, by the grace of God of Englande, Fraunce, and Irelande queene, defender of the faith, etc.—Ex Præfat. Annal. Elizab. Cambd. edit. Hearn. p. 32. seq. (Bodl. 4to. I. 2. Th. Seld.)

The preface.

THE queenes majestye of her godly zeale calling to remembraunce howe necessary it is to the avaunce-

Advertisements partly] These Advertisements and the proceedings consequent thereon occasioned the first open separation of the nonconformists from the church of England, the pro-

ment of God's glory, and the establishmente of Christes pure religion, for all her loving subjects, especially the state ecclesiasticall, to bee knitte together in one perfecte unitye of doctrine, and bee conjoyned in one uniformity of rites and maners in the ministration of God's holy worde, in open prayer and ministration of sacraments, as also to be of one decent behaviour in their outwarde apparell, to be knowne partely by their distinct habits to bee of that vocation (who shoulde be reverenced the rather in their offices, as ministers of the holye thinges whereto they bee called) hathe by her letters directed unto the archebyshop of Canterbury and metropolitane, required, enjoyned, and straightly charged, that with assistance and conference had with other byshops, namely suche as be in commission for causes ecclesiasticall, some orders might bee taken, whereby all diversities and varieties amonge them of the cleargy and the people (as breedinge nothinge but contention, offence, and breache of common charity, and be agaynste the lawes, good usage and ordinaunces of the realme) might be reformed and repressed, and brought to one maner of uniformity throughout the whole realme, that the people may thereby quietly honour and serve almighty God in truthe, concord, unity, peace, and quietnes, as by her majesties sayde letters more at large dothe appeare. Whereupon by diligent conference and communication in the same, and at laste by assent and consent of the persons before sayd, these orders and rules ensuing have been thoughte meete and convenient to be used and folowed; nor yet prescribinge these rules as laws equivalent with the eternall worde of God, as of necessity to bynde the consciences of her subjectes in the nature of them considered in themselves, or as they shoulde adde any efficacye or more holynes to the vertue of publique prayer, and to the sacraments; but as temporall orders meere ecclesiasticall, without any vayne superstitution, and as rules in some parte of discipline concerning decency, distinction and order for the time.

Articles for doctrine and preachinge.

Firste, That all they, whiche shalbe admitted to preache, shalbee diligentlye examined for theire conformity in unity of doctrine, established by publique authoritye; and admonished to use sobriety and discretion in teachinge of the people, namely, in matters of controversy; and to consider the gravity of their office, and to foresee with diligence the matters, which they will speake, to utter them to the edification of the audience.

Item, That they sette owte in theire preachinge the reverent estimation of the holy sacramentes of baptisme, and the Lordes supper, excitinge the people to thoften and the devoute receaving of the holy communion of the body and bludde of Christe, in suche forme as is already prescribed in the booke of common prayer, and as it is further declared in an homily concerninge the vertue and efficacye of the saide sacramentes.

Item, That they move the people to all obedience as well in observation of the orders appoynted in the booke of common service, as in the queenes majesties injunctions, as also of all other civill dutyes due for subjectes to do.

Item, That al licences for preaching graunted out by the archebyshop and byshopes within the province of Canterbury, bearing date before the first day of Marche, M.D.LXIV. be voyde and of none effect; and neverthe lesse all suche, as shalbe thought mete for the office, to bee admitted agayne without difficulty or charge, painge no more but four pence for the writinge, parchement, and waxe.

Item, If any preacher or parson, vicare or curate so licensed, shall fortune to preache any matter tendinge to dissention, or to the derogation of the religion and doctryne receyved, that the hearers denounce the same to the ordinaries or the next byshope of the same place; but no man openly to contrary or to impugne the same speeche so disorderly uttered, whereby may growe offence and disquyet of the people; but shal be convinced and reproved by the ordinary after suche agreable order, as shall be seene to him according to the gravity of the offence. And that it be presented within one moneth after the wordes spoken.

Item, That they use not to exacte or receave unreasonable rewardes or stipendes of the poore pastors comynge to theire cures to preache, whereby they myght bee noted as folowers of filthye lucre, rather than use thoffice of preaching of charity, and good zeale to the salvation of mens soules.

Item, If the parson be able he shall preache in his owne person everye three monethes, or else shall preache by another, so that his absence be approved by the ordinary of the dioces in respect of sickness, service, or study at the universityes. Neverthelesse yet for wante of able preachers and parsons to tolerate them withoute penaltye, so that they preache in theyre owne persons, or by a learned substitute, once in every three moneths of the yeare.

Articles for administration of prayer and sacramentes.

First, That the common prayer be sayde or songe decentlye and distinctlye in suche place, as the ordinarye shall thinke mete for the largenesse and streightnesse of the churche and quyer, so that the people may be moste edified.

fessed ground of separation being the necessity of wearing the same apparel that was used by the Romanists, but the real point at issue being, and soon afterwards shewing itself to be, the right principle of church government. In Feb. 1566, Humphrey and Samson proposed the following questions to Bullinger: "Whether any ecclesiastical constitutions may be tolerated, which though from their nature they are free from anything impious, do not nevertheless tend to edification? Whether anything of a ceremonial nature may be prescribed to the church by the sovereign without the assent and free concurrence of churchmen? Whether good pastors of unblemished life and doctrine may rightfully be removed from the ministry on account of their noncompliance with such ceremonies?" These and other questions were answered by Bullinger and Gualter in a way calculated to allay the growing discontent, but without satisfying the two impatient theologians who had proposed them. (Zurich Letters, pp. 154, 354.) The Advertisements were drawn up by the archbishop, and other bishops in commission with him, in obedience to peremptory letters addressed to him by the queen, (Strype, Parker, vol. i. p. 307. vol. iii. p. 65,) who had been informed that great irregularities prevailed without any endeavours on the part of the bishops to repress them, and was determined that stricter methods of discipline and good order should be exercised for the future. It appears, however, that several of her council, as for instance Leicester, Burleigh, Knollys, and Walsingham, were disposed to favour the wishes of the puritans; and whether from this cause or some other, although the queen was the person really responsible for these Advertisements, she did not officially give her sanction to them at the time, but left them to be enforced by the several bishops on the canonical obedience imposed upon the clergy and the powers conveyed to the ordinaries by the act of uniformity. Their title and preface certainly do not claim for them the highest degree of authority; and although Strype infers from certain evidence which he mentions, (Parker, vol. i. p. 319,) that they afterwards received the royal sanction, and recovered their original title of articles and ordinances, it seems more probable that they owed their force to the indefinite nature of episcopal jurisdiction, supported, as in this instance was known to be the case, by the personal approval of the sovereign. The way in which the archbishop speaks of them in his articles of enquiry, issued in the year 1569, (No. LXXIII.) certainly assigns to them "public authority," but clearly distinct from that of the crown; and in the year 1584, (No. XCIX.) archbishop Whitgift refers to them as having authority, but still calls them simply the book of Advertisements. It is worthy of remark also, that they are quoted as authoritative in the canons of 1571, but that those canons never received the confirmation of the crown; and that a similar reference was made to them in the canons of 1575 by the convocation of that period, but was expunged by the queen before she ordered the canons to be published. In practice, however, they were uniformly treated as having authority; and being quoted as such in the canons of 1603, which were confirmed by king James (see canon 24), they may be considered as having thereby obtained the royal sanction. They have since been recognized as the Advertisements of queen Elizabeth in the canons of 1640, which were ratified by king Charles I. Comp. Strype, Parker, vol. i. p. 313. vol. ii. p. 75. Ann., vol. i. P. ii. p. 130. Grindal, p. 154. Burnet's H. R. vol. iii. p. 587. Neal's Hist. of the Purit. vol. i. p. 127. ed. 1837. Collier, vol. ii. p. 496. Hallam, Const. Hist. vol. i. pp. 189, 193, 196. Lingard, vol. v. p. 316.

Item, That no parson or curate not admitted by the bysshope of the dioces to preache, do expounde in his owne cure, or elsewhere, any scripture or matter of doctrine, or by the way of exhortation, but only study to reade gravely and aptly, without any glosing of the same, or any additions, the homelyes already sett oute, or other suche necessarye doctrine as is or shall be prescribed for the quiet instruction and edification of the people.

Item, That in cathedrall churches and colledges the holye communion be ministred upon the firste or seconde Sundaye of everye monthe at the leaste. So that both deane, prebendaries, preists, and clerkes do receave, and all other of discretion of the fundation do receave foure tymes in the yeare at the leaste.

Item, In ministration of the holy communion in the cathedrall and collegiate churches the principall minister shall use a cope with gospeller and epistoler agreably; and at all other prayers to be sayde at the communion table, to use no copes but surplesses.

Item, That the deane and prebendaries weare a surplesse with a silke hoode in the quyer; and when they preache in the cathedrall or collegiate churche, to weare theire hoode.

Item, That every minister sayinge any publique prayers, or ministringe of the sacramentes or other rites of the churche, shall weare a comely surples with sleeves, to bee provided at the charges of the parishe; and that the parishe provide a decente table standinge on a frame for the communion table.

Item, That they shal decentlie cover with carpet, silke, or other decente coveringe, and with a fayre lynnen clothe (at the time of the ministration) the communyon table, and to sett the Tenne Commaundementes upon the easte walle over the said table.

Item, That al communicantes do receave kneeling, and as is appointed by the lawes of the realme and the queenes majesties injunctions.

Item, That the fonte be not removed, nor that the curate do baptize in parishe churches in any basons, nor in anye other forme, then is alreadie prescribed, without charginge the parent to be present or absent at the christening of his childe, although the parent may bee present or absent, but not to answere as godfather for his childe.

Item, That no childe be admitted to answere as godfather or godmother, except the childe hath receaved the communion.

Item, That there be none other holidays observed besides the Sundayes, but onelye suche as be set out for holidayes, as in the statute, "anno quinto et sexto "Edwardi sexti," and in the new calendar authorysed by the queenes majesty.

Item, That when any Christian bodye is in passing, that the bell be tolled, and that the curate be specially called for to comforte the sicke person, and after the tyme of his passinge to ringe no more but one shorte peale, and one before the buriall, and another shorte peale afther the buriall.

Item, That on Sundaies there be no shoppes open, nor artificers commonlye goinge aboute theire affaires worldly; and that in all faires and common markets fallinge uppon the Sunday, there be no shewing of any wares before the service be done.

Item, That in the Rogation dayes of procession they singe or saye in Englishe the two psalmes beginninge, "Benedic anima mea," etc. with the letany and suffrages thereunto with one homelye of thankesgivinge to God, already devised and divided into foure partes, without addition of any superstitiouse ceremonyes heretofore used.

Articles for certayne orders in ecclesiasticall policy.

First, Againste the day of giving of orders appoynted, the byshope shall give open monitions to all men to except agaynste suche as they knowe not to be worthy either for life or conversation. And there to give notice that none shall sue for orders but within their owne dioces, where they weare borne, or had theire longe tyme of dwellinge, except suche, as shall bee of degree in the universities.

Item, That younge preistes or ministers made or to be made, be so instructed, that they be able to make apte aunsweres concerninge the forme of the catechisme prescribed.

Item, That no curate or minister bee permitted to serve without examination and admission of the ordinary or his deputy in writing, having respect to the greatnes of the cure and the meetnes of the party; and that the sayde ministers, if they remoove from one dioces to another bee by no means admitted to serve without testimonye of the diocesan, from whence they come, in writing of theyre honesty and ability.

Item, That the bysshop doe call home once in the yeare any prebendary in his churche, or beneficed in the dioces, whiche studieth at the universities, to know how he profiteth in learninge, and that he be not suffered to bee a servinge or waytinge man dissolutely.

Item, That at the archedeacon's visitation the archedeacon shall appoynte the curates to certaine textes of the Newe Testamente to bee conde without booke. And in theire nexte synode to exact a rehearsall of them.

Item, That the churchewardens once in the quarter declare by theire curates in billes subscribed with their handes to the ordinarye or to the nexte officer under him, who they bee, whiche will not readyly paye theire penalties for not comminge to Goddes divine service accordingly.

Item, That the ordinaries doe use good diligente examination to foresee all simoniacall pactes or covenaunts with the patrons or presenters for the spoyle of their glebe, tithes, or mansion houses.

Item, That no persons be suffered to marye within the Leviticall degrees mentioned in a table, set forthe by the archebysshoppe of Caunterburye in that behalfe anno Domini M.D.LXIII; and if any suche be, to be separated by order of lawe.

Articles for outwarde apparell of persons ecclesiasticall.

Firste, That all archebysshoppes and bysshoppes do use and contineue their accustomed apparell.

Item, That all deanes of cathedrall churches, masters of colledges, all archedeacons, and other dignities in cathedrall churches, doctors, bachelers of divinitye and lawe, having any ecclesiasticall livinge, shall weare in their common apparell abrode a syde gowne with sleeves streyght at the hand without any cuttes in the same; and that also without any fallinge cape; and to weare typpets of sarcenet, as is lawfull for them by thact of parliament "anno XXIV. Hen. "octavi."

Item, That all doctors of physicke, or of any other facultye, havinge any living ecclesiasticall, or any other that may dispende by the churche one hundred markes, so to be estemed by the fruites or tenthes of their promotions, and all prebendaries, whose promotions be valued at twenty pound or upward, weare the like apparell.

Item, That they and all ecclesiastical persons or other, havinge any ecclesiasticall livinge, doe weare the cappe appointed by the injunctions. And they to weare no hattes but in their journeinge.

Item, That they in their journeinge do weare theire clokes with sleeves put on, and lyke in fashion to their gownes without gards, welts, or cuts.

Item, That in their private houses and studies they use their owne liberty of comely apparrell.

Item, That all inferior ecclesiastical persons shall weare longe gownes of the fashion aforesayde, and cappes as before is prescribed.

Item, That all poore parsons, vicars, and curates do endevor themselves to conforme theire apparrell in like sorte so soone and as convenientley, as theire ability will serve to the same. Provided that their abilitye bee judged by the bysshop of the dioces. And yf theire abilitye will not suffer to buye them longe gownes of the forme afore prescribed, that then they

shall weare their shorte gownes agreable to the forme before expressed.

Item, That al suche persons, as have ben or be ecclesiasticall, and serve not the minysterie, or have not accepted, or shall refuse to accepte, the othe of obedience to the queenes majesty, doe from hencefourth abrode weare none of the sayde apparrell of the forme and fashion aforesayde, but to go as mere laymen, till they be reconciled to obedience; and who shall obstinately refuse to do the same, that they bee presented by the ordinarye to the commissioners in causes ecclesiasticall, and by them to be reformed accordingly.

Protestations to be made, promised, and subscribed by them that shall hereafter bee admitted to any office, roome, or cure in any churche, or other place ecclesiasticall.

Imprimis, I shall not preache or publiquely interprete, but onely reade that, whiche is appointed by publique authoritye, without special licence of the bysshope under his seale.

I shall reade the service appoynted playnly, distinctly, and audibly, that all the people may heare and understande.

I shall keepe the register booke accordinge to the queenes majesties injunctions.

I shall use sobrietie in apparrel, and specially in the churche at common prayers, according to order appointed.

I shall move the parishoners to quiet and concorde, and not geve them cause of offence, and shall helpe to reconcile them, whiche be at variaunce, to my uttermoste power.

I shall reade daylie at the leaste one chapter of the Old Testament, and another of the Newe, with good advisement to thincrease of my knowledge.

I do also faithfully promise in my person to use and exercise my office and place to the honor of God, to the quiet of the queenes subjects within my charge, in truth, concorde, and unitye. And also to observe, kepe, and mentayne suche order and uniformity in all external policye, rites, and ceremonies of the church, as by the lawes good usages and orders are already well provided and established.

I shall not openlye intermeddle with any artificers occupations, as covetously to seke a gayne thereby, havinge in ecclesiastical lyvinge to the somme of 20. nobles or above by yere.

Agreed upon, and subscribed by

Matthæus Contuariensis
Edmundus Londoniensis
Richardus Eliensis
Edmundus Roffensis
Robertus Wintoniensis
Nicolaus Lincolniensis

} Commissioners in causes ecclesiasticall, with others.

S.

ARCHBISHOP WHITGIFT'S ARTICLES.—From Cardwell's Documentary Annals, Vol. I., p. 466.

XCIX.

Archiepisc. Cant. JOH. WHITGIFT 2. | Anno Christi 1584. | Reg. Angliæ ELIZAB. 27.

Articles touching preachers and other orders for the Church.—Reg. I. Whitgift, fol. 97. a.

I. THAT the laws late made against the recusants be put in more due execution, considering the benefitt that hath grown unto the church thereby, where they have been so executed, and the enconragement which they and others do receive by remisse executing thereof.

II. That all preaching, reading, catechisme, and other such like exercises in private places and families, whereunto others do resorte, being not of the same family, be utterly inhibited, seeing the same was never permitted as lawful, under any Christian magistrate, but is a manifest sign of schisme, and a cause of contention in the church.

III. That none be permitted to preach, read, or chatechise in the church or elsewhere, unless he do four times in the year at the least, say service, and minister the sacraments, according to the book of common prayer.

IV. That all preachers, and others in ecclesiastical orders, do at all times wear, and use such kynde of apparel as is prescribed unto them by the book of advertisements, and her majesty's injunctions "anno "primo."

V. That none be permitted to preach, or interpret the scriptures, unless he be a priest, or deacon at the least, admitted thereunto according to the laws of this realme.

VI. That none be permitted to preach, reade, catechise, minister the sacraments, or to execute any other ecclesiasticall function, by what authority soever he be admitted thereunto, unless he consent and subscribe to these articles following, before the ordi-

Articles touching preachers] The publication of these memorable articles forms an important epoch in the history of the church. Strong and rigorous in themselves, they appeared to be still more so, on account of the contrast they presented to the relaxed state of discipline during the suspension of archbishop Grindal; and they met with a degree of opposition which a prelate of less commanding ability than Whitgift could not have overcome. But they were not by any means new; and had the government of the church gone on uniformly during the time of archbishop Grindal, they would probably have created little surprise and dissatisfaction, when they were issued by his successor. The regulations respecting admission into orders had been generally approved before, as, for instance, in the articles adopted by the convocation of the year 1575 (Wilkins, Conc. vol. iv. p. 284); and even the three articles which all officiating ministers were required to subscribe, and which formed the principal ground of offence, were some of them already enjoined by law to be subscribed in given cases, and had all of them been employed by the queen's commissioners as tests of conformity. (Strype, Whitg. vol. i. p. 116. Parker, vol. ii. p. 350. Neal, Purit. vol. i. p. 207.) But in the present instance they were used by the archbishop on his own authority, and as a constant formula; and though on the interposition of secretary Walsingham the subscription appears soon afterwards to have been required from those only who came for orders or institution, and not from the great body of the officiating clergy, the questions still remained, and were discussed with much vehemence, whether the archbishop had not exceeded his powers in requiring such a subscription without the direct warrant of the crown, and whether the church was not endangered by the great accession that was made to the numbers, the energy, and the consistency of the nonconformists. On the former question he had the indefinite nature of his jurisdiction, the known approbation of the queen, the strong precedent of the Advertisements, and above all the force of his own reputation to support him; on the other he rested securely on that undefined sense of danger which prevailed in the kingdom generally, and which in every department both of church and state called for the exercise of a vigorous and watchful government. There was still another point on which the puritans complained of the subscription thus required from them. The statute 13 Eliz. c. 12. which ratified the thirty-nine articles, enacted (as the puritans maintained) that those articles, but those only, should be subscribed, which concern the confession of the true Christian faith and the doctrine of the sacraments; and it is evident from the parliamentary history of the year 1575 (see D'Ewes Journal) that it was intended to exclude the articles connected with the authority and discipline of the church. It had, however, gradually become the practice to require an unreserved subscription, and the practice was now established by the orders of the archbishop; for no such distinction respecting the articles had been allowed in the canons of 1571, and it was the queen's determination in this as in all other questions affecting the church, to rest on her own supremacy instead of the authority of parliament. But it is also worthy of remark, that lord Coke, who was living and a lawyer at the time, speaks of the statute 13 Eliz. c. 12. with reference to subscription, and yet takes no notice of the alleged limitation in it; and that he mentions the two subscriptions, the one required by the statute and the one required by the canons, as if they were co-ordinate and co-extensive. (Instit., Part iv. p. 323.) The great difference which had gradually arisen in the external condition of the church within the last twenty years, may be clearly seen on comparing the articles enjoined for subscription by Archbishop Whitgift with the corresponding subscription required in the Advertisements of the year 1564, (No. LXV.) The three articles, as is well known, were afterwards confirmed by king James, and introduced into the canons of the year 1603. Strype, Whitg. vol. i. p. 248. Ann. vol. iii. P. i. p. 319. Collier, vol. ii. p. 584. Neal, Purit. vol. i. p. 260. Comp. Wood's Ann. anno 1589. Hallam, Const. Hist. vol. i. p. 206. Lamb's Articles, p. 27. Synodalia, vol. i. p. 61.

nary of the diocese, wherein he preacheth, readeth, catechiseth, or ministereth the sacraments, videlicet:

[I.] That her majestie under God, hath and ought to have the soveraigntie and rule over all manner of persons born within her realmes, dominions, and countries, of what estate, either ecclesiastical, or temporal, soever they be; and that no foreign power, prelate, state, or potentate, hath or ought to have any jurisdiction, power, superioritie, preeminence, or authoritie ecclesiastical or spiritual, within her majesties said realmes, dominions, and countries.

[II.] That the book of common prayer, and of ordering, bushops, prestes, and deacons, conteyneth nothing in it contrary to the word of God, and that the same may lawfully be used, and that he himself will use the forme of the said book prescribed in public prayer, and administration of the sacraments, and none other.

[III.] That he alloweth the book of articles of religion, agreed upon by the archbushops and bushops of both provinces, and the whole clergy in the convocation holden at London in the yere of our Lord God M.D.LXII. and set forth by her majesties authority, and that he believeth all the articles therein conteyned to be agreable to the word of God.

VII. That from henceforth, none be admitted to any orders ecclesiastical, unless he do then presentlie shew to the bishop a trew presentation of himself to a benefice then void within the diocese, or jurisdiction of the said bishop, or unless he shew unto the same bushop a trew certificate, where presently he may be placed to serve some cure within the same diocese, or jurisdiction, or unless he be placed in some cathedral or collegiate church, or colledge in Cambridge or Oxford, or unless the said bushop shall then forthwith place him in some vacant benefice or cure.

VIII. And that no busshop henceforth do admit any into orders, but such as shal be of his own diocese, unless he be of one of the universities, or bring his lettres dimissories from the busshop of the diocesse, and be of age ful twenty-four years, and a graduate of the university, or at the least able in the Latin tongue to yealde an accompte of his faith, according to the articles of religion agreed upon in convocation, and that in such sorte, as that he can note the sentences of Scripture, whereupon the truth of the said articles is grounded, and bring a sufficient testimonial with him of his honest life and conversation, either under the seal of some colledge in the universities, where he hath remained, or from some justice of the peace, with other honest men of that parish, where he hath made his abode for three yeares before; and that the bushop, which shall admitt any into orders, being not in this manner qualified, be by the archbishop, with the assistance of some one other bishop, suspended from admitting any into orders for the space of two yeares.

IX. And that no bushop institute any into a benefice, but such as be of the habilitie before prescribed; and if the arches by double quarrell or otherwise proceade against the said busshop, for refusal of such as be not of that habilitie, that the archbusshop of Cant. either by his own authoritie, or by means procured from her majestie, may stay such proces, that the endeavor of the byshop may take place.

X. That one kinde of translation of the Bible be only used in public service, as well in churches as chappells, and that to be the same which is now authorized by the consent of the bushops.

XI. That from henceforth ther be no commutation of penance, but in rare respectes, and upon great consideration, and when it shall appear to the busshop himself, that that shall be the best way for wynning and reforming of the offendor, and that the penalty be employed either to the relief of the poor of that parish, or to other godly uses, and the same well witnessed and made manifest to the congregation; and yet if the fault be notorious, that the offendor make some satisfaction either in his own person with declarations of his repentance openlie in the church, or else that the minister of the church openlie in the pulpitt signifie to his people his submission and declaration of his repentance done before the ordinarie, and also in token of his repentance what portion of money he hath given to be employed to the uses above named.

As persons of honest, worshipfull, and honorable calling may necessarilie and reasonablie have occasions sometimes to solemnize marriage by licence for the banns asking or for once or twice without any great harm; so for avoiding generallie of inconveniences noted in this behalf, yt is thought expediente that no dispensations be graunted for marriage without bannes, but under sufficient and large bondes, with these conditions following:

First, That there shall not afterwards appear any lawfull let or impediment by reason of any pre-contract, consanguinitie, affinitie, or any other lawfull meanes whatsoever.

Secondly, That ther be not at that presente tyme of grauntinge such dispensation any suite, pleinte, querele, or demand moved or depending before any judge ecclesiastical or temporal for and concerning any such lawful impediment betwene such the parties. And

Thirdly, They proceed not to the solemnization of the marriage without the consent of parents or governors.

Lastly, That the marriage be openly solemnized in the church. The copy of which bond is to be set down and given in charge for every busshop in his diocese to follow; provided that whosoever offendeth against this order, be suspended ab execution officii for one half yeare.

T.—Fac-simile of a Copy of the Comprehension Bill of 1689 preserved among the Records of the House of Lords.

N.B.—*The passages struck out by horizontal lines are printed in the only available erased type. They are not in smaller writing in the original.*

An Act for the uniteing their Matyes Protestant Subjects.

Whereas the peace of the State is highly concerned in the peace of the Church which therefore at all times but especially in this conjuncture is most necessary to be preserved In order therefore to remove occasions of differences and dissatisfaccõns which may arise among Protestants Be it Enacted by the King's and Queen's Most Excellent Mat^ies by and with the advice and consent of the Lords Spiritual and Temporal
6 and of the Commons ~~of~~ ∧ in this present Parliam^t assembled and by the authority of the same That in order to y^e being a Minister of this Church or the taking holding and enjoying any Ecclesiastical Benefice or Promotion in the same, noe other Subscripcõns or Declaracõns shall from henceforward be required of any person but only the Declaracõn mencõned in a Statute made in the thirtieth year of the Reign of the late King Charles the Second intituled An Act for the more effectual preserving the Kings person and Governm^t by disabling Papists from sitting in either House of

submit to the p̃sent Constitucon of the Church of Engl^d I acknowledge that the Doctrine of it contains in it all things necessary to Salvation and I will conforme myselfe to the worshipp and the government thereof as established by law and I solemnly

Parliam^t and alsoe this Declaracõn following viz^t I. A. B. doe ∧ ~~approve of the Doctrine and Worship and Government of the Church of England by Law established~~
14 ~~as containing all things necessary to Salvation And I~~ promise in y^e exercise of my Ministry to Preach and practice according thereunto.

And Be it further enacted by the authority aforesaid that in order to the being Collated or Instituted into any Benefice or Promotion noe more or other Oaths

two

18 shall be required to be taken of any person than onely the ∧ Oaths ~~of Fidelity~~ mencõned in the late Statute made in the first year of the Reigne of King William and Queen Mary Intituled An Act for removing and preventing all Questions and Disputes concerning the

and the oath of Residence

21 assembling and sitting of this present Parliament and alsoe the Oath of Simony ∧ any Statute or Canon to the contrary notwithstanding.

And Be it further enacted by the authority aforesaid that the Two and y^e said Oaths ~~of fidelity taken~~ mencõned in the s^d Stat made in the first year of the Reigne of King William and Queene Mary shall be taken

24 Declaracõns aforesaid shall be made and subscribed ∧ in the presence of the Bishop or his Chancellor

Chancellor or the Guardian of the Spiritualities by every person that is to receive any Holy keepe any Publiqe Schoole and alsoe the s[d] Oathes and Declarac̃on together with the said Oathes of Simony and Residence by every p̃son
2 orders or ∧ that is to have a Lycence to preach any Lecture or that is to be Collated or Instituted into any Benefice or that is to be admitted into any Ecclesiastical dignity or Promotion before
4 such his ordination Lycencing Collation Institution or Admission respectively.

And Be it further Enacted that every person that shall from henceforward take any Degree in either of the Universities or any Fellowship Headship or Professors place in the same shall before his admission to that Degree or Fellowship or Headship or Professors mentioned in the s[d] Statute made in the first year of the Raigne of King William and Queene Mary
8 place subscribe the aforesaid Declarac̃ons and take the said Oaths ~~of Fidelity~~ ∧ in the presence
9 of the Vice Chancellor or his Deputy, ~~And every person likewise that shall be admitted to be Master of any Free Schoole shall make the said Declaration and take the said Oaths in the presence of the Bishop or Chancellor of the Dioese~~ Provided that if any of the persons herein before required to make and subscribe the said Declarac̃ons be not in Holy orders such person make and
shall not be obliged to ∧ subscribe all the Declarac̃on hereinbefore expressed but onely this submit to the p̃sent Constitucon of the Church of Engl: I acknowledge
14 part thereof viz[t] I. A. B. doe ~~approve of the Doctrine and Worship and Governm[t] of the Church~~ ∧ that the Doctrine of it contains in it all things necessary to Salvation, and I will conform myself to the worship and the governm[t] thereof as established by Law
15 ~~of England by Law established as containing all things necessary to Salvation~~ ∧ together with the other Declaration aforesaid menc̃oned in the ~~Thirtieth~~ said Statute made in the thirtieth year of the Reigne of the late King Charles the Second.

And Be it further Enacted that the making and subscribing the said Declarac̃ons and taking the said Oaths as aforesaid shall be as sufficient to all Intents and aforesaid
purposes ∧ as if the parties had made all other Declarations and Subscripc̃ons and taken all other Oathes which they should have taken by virtue of any Law Statute or Canon whatsoever.

22 And Be it further Enacted by the authority aforesaid that every person already ordained by the laying on of the hands of the Presbytery and not by any Protestant Bishop of the Kingdomes of England Scotland or Ireland shall nevertheless upon his desire be admitted into the Ministry of this Church by the Imposition of the Bishops hands in this forme. Take thou authority to Preach the word of God and administer the Sacram[ts] and to performe all

All other Ministerial Offices in the Church of England. And from henceforward he shall be as capable of being Collated admitted or put into and to hold and Enjoy any Ecclesiastical Benefice or Promotion, as if he had been ordained according to the forme of making and ordaining Preists and Deacons in the Church of England.

And Be it further Enacted by the authority aforesaid that from henceforth Noe Minister shall be obliged to wear a Surplice in the time of reading Prayers or performing any other Religious Office. Except onely to the King and Queens Ma^ties Chappells and in all Cathedral or Collegiate Churches and Chappells of this Realme of England and Dominion of Wales Provided alsoe that every Minister that shall not think fitt to wear a Surplice as aforesaid shall nevertheless be obliged to performe all y^e Publick Offices of his Ministry in the Church in a Black Gowne suitable to his Degree, And if it be in a place where a Gowne is not the Dayly constant Habit of the Minister, in every such place the Parish shall provide a Gowne for him to be worne by him dureing the time of his officiating in the Church.

And Be it further Enacted by the authority aforesaid that no Minister from henceforward shall be obliged to use the signe of the Crosse in Baptisme nor any Parent obliged to have his Child Christned by the Minister of the Parish if the said Minister will not use or omitt the Signe of the Cross according to the desire of the Parent who

of the Church of Engl

in that case may procure Some other Minister ∧ to doe it.

And Be it further Enacted by y^e authority aforesaid that noe Minister or Ecclesiastical person shall oblige any person to find Godfathers or Godmothers for any Child to be baptized soe as the Parents or Parent or other Friend of such Child shall present the same to be Baptized and shall answer for such child in like manner as the Godfathers and Godmothers are now required to doe.

And Be it further Enacted by y^e^ authority aforesaid that noe Minister that shall Officiate in the Administracon of the Sacram^t^ of the Lords Supper shall deny or refuse it to any person that desires to be admitted to the same in a Pew or Seate in the Church Altho such person shall not receive it kneeling.

4 And Whereas the Liturgie of the Church of England is capable of seve^ll^ alteracons & ~~improvem^ts^~ additions

5 which may free it from exception and may conduce to y^e^ Glory of God and y^e^ better Edification of the People

6 And Whereas the Book of Canons ~~if~~ is fitt to be reviewed and made suitable to the present state of the Church And Whereas there are divers abuses and defects in the Ecclesiastical Courts and Jurisdiction and particularly for Reformacon or removeing of scandalous Ministers. And Whereas it is very fitt and profitable that Confirmacon be administred with such due preparacon and solemnity as is directed in the late King Charles the Second's Declaration concerning Ecclesiastical affairs issued in the yeare of our Lord 1660 And a strict care be used in the examinacon of such persons as desire to be admitted into Holy orders both as to their Learning and Manners.

Wee Your Ma^ties^ most dutifull and Loyall Subjects the Lords Spiritual and Temporal and the Commons in this present Parliam^t^ assembled doe most humbly beseech your Majesties to issue out a Comission under yo^r^ Great Seale ~~of England~~ directed to the Arch Bishops and such Bishops and such

16 others of the Clergy of the Church of England not exceeding the number of ~~twenty~~ thirty in y^e^ whole impowering and requiring them or any Twelve of them to meet from time to time and as often as shall be needfull and to make such alteracons in the Liturgie and reformacon of the Canons and Ecclesiastical Courts as may conduce to the Establishm^t^ of the Church in Peace and Tranquility

20 and to present such alteracons and reformacons to the Convocation and to the Parliam^t^: that the same may be approved and Established in due forme of Law.

An ~~Bille~~ Act

For Uniting Their Mat[ies]

Protestant Subjects.

1[a] vice lca 11° Martij 1688.

2[a] vice lca 14° Martij 1688.
& Co̅mitted

1 sh: 14 l. I doe . A. B. ∧ submit to the present Constitution of the Church of England I acknowledge that the Doctrine of it contains in it all things necessary to Salvation and ~~that~~ that ∧ I will conform myself to the worship and ~~will acquiesce in~~ the Government thereof ∧ as established by Law. ∧ And I solemnely p̄mise in the exercise of my Ministry to preach and practice according thereunto.

Agreed to.

2 sh: 14 et 15 l. Instead of the 14th and 15th l Reade (I A. B. doe doe submitt to the p̄sent Constitucon of the Church of Engl^d, I acknowledge that the Doctrine of it contains in it all things necessary to Salvation and I will conforme myselfe to the Worship and the government thereof as established by Law)

4 sh: 3^d line After (same) add (in a pew or seate in the Church)

Comprehension.

1 sh: 6 l. For (of) Reade (in)

14 l. Instead of (as containing) Reade (w^ch I do

× acknowledge to containe) and before (promise) Add (solemnely)

18 l. Before (Oathes) Insert (two) and leave out (of fidelity)

21 l. After (Symony Add (and the Oath of Residence)

24 l. Leave out (of fidelity) And Add (mentioned in the s^id Stat^e made in the first yeare of the Raigne of King William and Queene Mary shall be)

2 sh: 2 l. After the first (or) insert (keepe any Publiqe Schoole and alsoe the s^d Oathes and Declaracon together with the s^d Oathes of Symony and Residence by every p^rson)

4 l. After (admission) Add (respectively)

8 l. Leave out (of fidelity) and Reade (mentioned in the s^d Stat^e made in the first yeare of the Raigne of King William and Queene Mary)

9 l. Leave out from (Deputy) to (Provided) in the 11^th l.

× 15 l. For (s containing) Reade (w^ch I doe acknowledge to contain)

22 l. Leave out from (And bee it) inclusive to (And Bee it) in the 5^th l of the 3^d sheet

3 sh: 11 l. Leave out from (degree) to (And) in the 14^th line

18 l. After (Minister) Add (of the Church of Engl^d)

4 sh ~~× 11 l.~~ Leave out from (And) inclusive to (And) in the 4^th l.

4 sh: 4 l. For (improvements) Reade (additions)

6 l. For (if) Reade (is)

5 l. Before (edificacon) Reade (better)

---

16 l. For (twenty) Reade (thirty)

20 l. After (Reformacons) Reade (to the Convocacon and)

~~1 l. Leave out from (And) inclusive to (And) in the 4^th l.~~

LONDON:
Printed by George E. Eyre and William Spottiswoode,
Printers to the Queen's most Excellent Majesty.
For Her Majesty's Stationery Office.

TITHE COMMISSION.

COPY of the Report of the Tithe Commissioners to Her Majesty's Secretary of State for the Home Department, dated 31st January 1865.

[For the Year 1864.]

Presented to both Houses of Parliament by Command of Her Majesty.

Copyhold, Inclosure, and Tithe Consolidated Commission,
31st January 1865.

Sir,

It is our duty to forward to you the Report of our Proceedings in the Tithe Department of this Consolidated Commission to the close of the year 1864.

We have received 7,070 Agreements and confirmed 6,778.

We have made 5,648 Drafts of compulsory Awards, and confirmed 5,450; and of these 1 was received and 1 confirmed during the year 1864.

In 12,228 Districts, as will be seen from the above statement, the Tithes have been commuted by confirmed Agreements or confirmed Awards.

In 414 of these Districts the Rentcharges have been disposed of by Redemption or Merger.

We have received 11,787 Apportionments, and confirmed 11,782; of which 1 was received and 2 confirmed during the year 1864.

We have made 3,129 Altered Apportionments, and confirmed 2,697; and of these 180 have been received and 145 confirmed during the year 1864.

We have received 1,001 Applications for the Exchange of Glebe Lands, and confirmed 908 of such Exchanges; and of these 30 Applications were received and 38 Exchanges confirmed during the past year.

We have received 673 Applications for the Redemption of Rentcharge, and have completed 485 of such Redemptions; and of these 121 were received, and 77 completed during the year 1864.

We have received 9 Applications to convert variable Corn-rents payable under local Acts of Parliament into Rentcharges to be henceforth payable in like manner as ordinary Tithe Rentcharges, and have completed Awards in 5 of these cases.

At the close of 1864 we had confirmed 14,679 distinct Mergers of Tithes or Rentcharges.

We annex an Abstract.

We have the honour to be,
Sir,
Your very obedient Servants,
G. DARBY.
G. RIDLEY.
G. W. COOKE.

To the Right Honourable
The Secretary of State for the Home Department,
&c. &c. &c.

3447 [*Price ½d.*]

ABSTRACT OF TITHE PROCEEDINGS.

Agreements received		7,070
Do. confirmed	6,778	
Do. superseded by awards	291	
		7,069
Do. in progress		1
Awards made		5,648
Do. confirmed	5,450	
Do. superseded by agreements	165	
		5,615
Do. in progress		33
Total number of agreements and awards confirmed		12,228
Tithe districts in which the rentcharges have been disposed of by merger or redemption	414	
Apportionments received	11,787	
		12,201
Tithe districts in which the rentcharges remain to be disposed of		27
Apportionments received		11,787
Do. confirmed		11,782
Do. in progress		5
Altered apportionments received		3,129
Do. confirmed	2,697	
Do. withdrawn	238	
		2,935
Do. in progress		194
Applications for the exchange of glebe lands received		1,001
Exchanges confirmed	908	
Do. withdrawn	74	
		982
Do. in progress		19
Applications for the redemption of rentcharge received		673
Redemptions confirmed		485
Do. in progress		188
Applications for the conversion of corn-rents received		9
Awards completed	5	
Do. withdrawn	1	
		6
Do. in progress		3
Mergers of tithe or rentcharge received		14,679
Do. confirmed		14,679
Do. in progress		nil.

31st December 1864.

TITHE COMMISSION.

COPY of the REPORT of the TITHE COMMISSIONERS to Her Majesty's Secretary of State for the Home Department, dated 31st Jan. 1865.

[For the Year 1864.]

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:

Printed by GEORGE E. EYRE and WILLIAM SPOTTISWOODE, Printers to the Queen's most Excellent Majesty.

For Her Majesty's Stationery Office.

1865.

11635.

TWENTIETH ANNUAL REPORT

OF THE

COMMISSIONERS

OF

CHARITABLE DONATIONS AND BEQUESTS

FOR

IRELAND.

Presented to both Houses of Parliament by Command of Her Majesty.

DUBLIN:
PRINTED BY ALEXANDER THOM, 87 & 88, ABBEY-STREET,
FOR HER MAJESTY'S STATIONERY OFFICE.

1865.

[*Price 2d.*]

2465

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REPORT.

TO THE QUEEN'S MOST EXCELLENT MAJESTY.

MAY IT PLEASE YOUR GRACIOUS MAJESTY,

1. We, the Commissioners of Charitable Donations and Bequests for Ireland, appointed under an Act passed in the 7th and 8th years of your Majesty's Reign, entitled, "An Act for the more effectual Application of Charitable Donations and Bequests in Ireland," humbly beg leave to submit to your Majesty this our Twentieth Annual Report.

2. In the First Schedule hereto annexed will be found the dates of the several meetings of our body, held since the 4th February, 1864, together with the names of the members present thereat, respectively.

3. We annex to this our Report, in Schedule No. 2, a Copy of the Abstract of our Accounts in the several Charities under our administration, from 1st January, 1864, to 31st December last; the details of which have been lodged with Master Fitzgibbon for examination and audit.

4. That portion of our accounts, called our "Private Account," as distinguished from our "Charity Account," consisting of grants from the Treasury for the ordinary expenses of the Board, and the interest on a sum of £1,397 13*s.*, new 3 per cent. stock, called the "Embezzled Charity Recovery Fund," referred to more particularly in former Reports, is subject to the inspection of the Audit Office. We have, since our last Report, rendered to that Office Monthly Accounts, as required by the Commissioners of Audit, and we annex in Schedule No. 3, Copy of Certificate, showing that the balance returned up to 31st March last was correct. The above-mentioned sum of £1,397 13*s.*, new 3 per cent. stock, and a balance due upon our Monthly account to 1st February, of £145 14*s.* 1*d.*, are the only sums under our control not appropriated or belonging to any particular Charity Trust.

5. The total amount of the trust funds now under our care and control in cash, and vested in Government and other securities, is set forth in the 4th, 5th, and 6th Schedules annexed to this Report; the particulars of which, together with the objects of each trust fund, will be found in Schedule No. 7, also annexed.

6. The annual amount of rents and annuities under our guardianship, specifying the particular amount of each, with the name of the testator or donor by whom created, the source from whence each is derived, and the object of each trust, is given in Schedule No. 8, to this Report annexed; and in Schedule No. 9 will be found a Return of Charity Funds standing to the credit of causes or matters in the Court of Chancery, in which the title of the Charity has been established by decree or order.

7. All which we submit as our Report to Your Most Excellent Majesty, and in testimony thereof have caused our corporate seal to be hereunto affixed this 2nd day of March, 1865.

Present when seal affixed,

T. B. CUSACK SMITH, *Chairman*,
WILLIAM B. KIRKPATRICK,
M. LONGFIELD, LL.D.,
J. WEST, *Dean of St. Patrick's*,
JOHN ENNIS,
JONATHAN PIM,
} *Commissioners.*

SEAL.

HERCULES MACDONNELL,
WILLIAM GERNON,
} *Secretaries.*

APPENDIX

TO THE

TWENTIETH REPORT

OF THE

COMMISSIONERS OF CHARITABLE DONATIONS AND BEQUESTS FOR IRELAND.

SCHEDULES.

APPENDIX.

SCHEDULE No. 1.

Return of the Meetings of the Commissioners of Charitable Donations and Bequests for Ireland, since the 4th February, 1864.

RETURN of the Meetings of the Commissioners of Charitable Donations and Bequests for Ireland, since the 4th February, 1864, the dates thereof, and the Commissioners present at each Meeting up to the *present* time.

11*th February*, 1864.

The Right Honorable the Master of the Rolls in the Chair.
The Right Honorable Mr. Justice Fitzgerald.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
Jonathan Pim, Esq.

18*th February*, 1864.

The Right Honorable the Master of the Rolls in the Chair.
The Right Honorable John Hatchell.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.
Jonathan Pim, Esq.

25*th February*, 1864.

The Right Honorable the Master of the Rolls.
The Right Honorable John Hatchell.
The Right Honorable Mr. Justice Fitzgerald.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
Jonathan Pim, Esq.

3*rd March*, 1864.

The Right Honorable the Master of the Rolls in the Chair.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.
Jonathan Pim, Esq.

10*th March*, 1864.

The Right Honorable the Master of the Rolls.
The Right Honorable John Hatchell.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.
Jonathan Pim, Esq.

14*th April*, 1864.

The Right Honorable the Master of the Rolls in the Chair.
The Right Honorable John Hatchell.
The Right Honorable Mr. Justice Fitzgerald.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.

21st April, 1864.

The Right Honorable the Master of the Rolls in the Chair.
The Right Honorable Mr. Justice Fitzgerald.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.
Jonathan Pim, Esq.

28th April, 1864.

The Right Honorable the Master of the Rolls in the Chair.
The Right Honorable John Hatchell.
The Right Honorable Mr. Justice Fitzgerald.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.
Jonathan Pim, Esq.

5th May, 1864.

The Right Honorable the Master of the Rolls in the Chair
The Right Honorable John Hatchell.
The Right Honorable Mr. Justice Fitzgerald.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.
Jonathan Pim, Esq.

26th May, 1864.

The Right Honorable the Master of the Rolls in the Chair.
The Right Honorable Mr. Justice Fitzgerald.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.
Jonathan Pim, Esq.

2nd June, 1864.

The Right Honorable the Master of the Rolls in the Chair.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
Jonathan Pim, Esq.

*** *And no other Commissioners having attended, no Board business could be transacted on this day.*

9th June, 1864.

The Right Honorable the Master of the Rolls in the Chair.
The Honorable Judge Longfield, LL.D.
Jonathan Pim, Esq.

*** *And no other Commissioners having attended, no Board business could be transacted this day; but the members who attended directed that a communication should be made to Government through Sir Thomas Larcom, stating that this is the second consecutive failure, and calling his attention to the fact that there are two vacancies upon the Board, which have been for a considerable time unfilled, and that, as the period for the issue of the half-yearly dividend is approaching, further failures will lead to great public inconvenience on that as well as on other accounts.*

16th June, 1864.

The Right Honorable the Master of the Rolls in the Chair.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend John West, Dean of St. Patrick's.
Jon athan Pim, Esq.

23rd June, 1864.

The Right Honorable the Master of the Rolls in the Chair.
The Right Reverend Bishop Cornelius Denvir.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.
Jonathan Pim, Esq.

30th June, 1864.

The Right Honorable the Master of the Rolls in the Chair.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.
Jonathan Pim, Esq.

APPENDIX.

SCHEDULE No. 1.

Return of the Meetings of the Commissioners of Charitable Donations and Bequests for Ireland, since the 4th February, 1864.

9th July, 1864.

The Right Honorable the Master of the Rolls in the Chair.
The Right Honorable the Chief Baron.
The Right Honorable John Hatchell.
The Honorable Baron Hughes.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.
Jonathan Pim, Esq.

20th October, 1864.

The Honorable Baron Hughes in the Chair.
The Right Honorable John Hatchell.
The Right Honorable Mr. Justice Fitzgerald.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.
Jonathan Pim, Esq.

27th October, 1864.

The Right Honorable the Master of the Rolls in the Chair.
The Honorable Baron Hughes.
The Right Honorable Mr. Justice Fitzgerald.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
Jonathan Pim, Esq.

3rd November, 1864.

The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.

*** *And no other Commissioners having attended, no Board business could be transacted on this day.*

10th November, 1864.

The Right Honorable the Master of the Rolls.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.

*** *And no other Commissioners having attended, no Board business could be transacted on this day; but the members present requested that the Chairman should communicate with the Government regarding the existing vacancies.*

17th November, 1864.

The Right Honorable the Master of the Rolls in the Chair.
The Right Honorable the Chief Baron.
The Right Honorable Mr. Justice Fitzgerald.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.
Jonathan Pim, Esq.

24th November, 1864.

The Right Honorable the Master of the Rolls.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
Jonathan Pim, Esq.

*** *And no other Commissioners having attended, no Board business could be transacted on this day.*

1st December, 1864.

The Right Honorable the Master of the Rolls in the Chair.
The Right Honorable Mr. Justice Fitzgerald.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.
Jonathan Pim, Esq.

8th December, 1864.

The Right Honorable the Master of the Rolls.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.
Jonathan Pim, Esq.

15th December, 1864.

The Right Honorable the Master of the Rolls in the Chair.
The Honorable Baron Hughes.
The Right Honorable Mr. Justice Fitzgerald.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.

22nd December, 1864.

The Right Honorable the Master of the Rolls in the Chair.
The Honorable Baron Hughes.
The Right Honorable Mr. Justice Fitzgerald.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.
Jonathan Pim, Esq.

12th January, 1865.

The Right Honorable the Master of the Rolls in the Chair.
The Right Honorable the Chief Baron.
The Honorable Baron Hughes.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.
Jonathan Pim, Esq.

19th January, 1865.

The Right Honorable the Master of the Rolls in the Chair.
The Right Honorable the Chief Baron.
John Ennis, Esq., M.P.
The Honorable Baron Hughes.
The Right Honorable Mr. Justice Fitzgerald.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend J. West, Dean of St. Patrick's.

26th January, 1865.

The Right Honorable the Master of the Rolls in the Chair.
The Right Honorable Mr. Justice Fitzgerald.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
Jonathan Pim, Esq.
Sir James Power, Bart.

2nd February, 1865.

John Ennis, Esq., M.P.
The Honorable Baron Hughes.
The Honorable Judge Longfield, LL.D.
Jonathan Pim, Esq.

*** *And no other Commissioners having attended, no Board business could be transacted on this day.*

9th February, 1865.

The Right Honorable the Master of the Rolls in the Chair.
John Ennis, Esq., M.P.
The Honorable Baron Hughes.
The Right Honorable Mr. Justice Fitzgerald.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend John West, Dean of St. Patrick's.
Jonathan Pim, Esq.

16th February, 1865.

The Right Honorable the Master of the Rolls in the Chair.
The Right Honorable John Hatchell.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.
The Very Reverend John West, Dean of St. Patrick's.
Jonathan Pim, Esq.

23rd February, 1865.

The Right Honorable the Master of the Rolls.
The Right Honorable John Hatchell.
The Reverend W. B. Kirkpatrick, D.D.
The Honorable Judge Longfield, LL.D.

*** *And no other Commissioners having attended, no Board business could be transacted on this day.*

APPENDIX.

SCHEDULE No. 2.

Abstract of the Accounts of the Commissioners of Charitable Donations and Bequests for Ireland, in the several Charities under their Administration for the year ended 31st December, 1864.

ABSTRACT OF THE ACCOUNTS OF THE COMMISSIONERS OF CHARITABLE DONATIONS AND

1st January to 31st

THE CHARGE.

GOVERNMENT STOCK

	£	s.	d.
To amount of Government Stock and Debentures to credit of the Commissioners on 1st day of January, 1864, as per last Account rendered, . . .	207,337	15	8
To amount of Government Stock received from 1st day of January to 31st December, 1864, per Schedules A. B., ...	748	5	4
	£208,086	1	0

CASH

		£	s.	d.
January 1, 1864.	To amount due to Charities, per last account audited and declared,	1,174	13	3
31st December.	To amount received from Rents and Annuities, Schedule C, .	950	0	9
„	To do. do. from Interest on Stock and Debentures, Schedule E, ...	6,310	16	6
„	To do. do. from Sale of Stock, Schedules A and B, .	447	0	0
„	To do. do. from other sources, Schedule D, . .	456	6	5
„	To do. do. advanced to Charities, Schedule G, .	108	4	9
		£9,447	1	8

STATE OF BALANCE.

				£	s.	d.
Advances, as above, ...				108	4	9
In Bank, per certificate, ...	£547	4	2			
Less outstanding Drafts of 1859, £1 11s. 3d.; and of 1864, No. 1813, 18s. 6d.; 1818, £2 6s. 2d., ...	3	17	5			
				543	6	9
Sums disallowed in former accounts, being embezzlements of E. W. Mathews, .				387	9	8
Amount as in last account, ...				0	14	3
				£1,039	15	5

Present when Seal affixed, this 26th day of January, 1865,

THE RT. HON. THE MASTER OF THE ROLLS, *Chairman*,
THE REV. W. B. KIRKPATRICK, D.D.,
THE HON. JUDGE LONGFIELD,
THE VERY REV. THE DEAN OF ST. PATRICK'S,
SIR JAMES POWER, BART.,
JONATHAN PIM,
} *Commissioners.*

SEAL.

HERCULES MACDONNELL,
WILLIAM GERNON,
} *Secretaries.*

Abstract of the Accounts of the Commissioners of Charitable Donations and Bequests for Ireland, in the several Charities under their Administration for the year ended 31st December, 1864.

BEQUESTS FOR IRELAND, in the several Charities under their administration, from December, 1864.

THE DISCHARGE.

AND DEBENTURE ACCOUNT.

	£	s.	d.
By Government Consols, sold or transferred, per Schedules A, B,	412	11	1
By New 3 per Cents. sold or transferred, per ditto,	86	0	0
By balance standing to the credit of the Commissioners in the Bank of Ireland on the 31st December, 1863,	207,587	9	11

	£	s.	d.	£	s.	d.
In Government Stock,	207,210	11	5			
In Debentures and Mortgage,	376	18	6			
	£207,587	9	11	£208,086	1	0

ACCOUNT.

		£	s.	d.
31st December, 1864.	By amount paid under orders of Commissioners, the vouchers for which are numbered consecutively from No. 1 to No. 606,	8,124	17	4
„	By amount invested in (new) 3 per cent. Stock, Schedules A and B,	167	19	9
„	By do. do. 3 per cent. do., Schedules A and B,	31	6	1
„	By do. advanced to Charities in last year's account,	83	3	1
„	By balance due to Charities, Schedule F,	1,039	15	5
		£9,447	1	8

I, ROBERT MOLLOY, do solemnly and sincerely declare, that this, the Account of the Commissioners of Charitable Donations and Bequests for Ireland, from 1st January to 31st December, 1864, rendered by me as their Accountant, is just and true, according to the best of my knowledge and belief, and I make this solemn declaration, conscientiously believing the same to be true.

ROBERT MOLLOY,
Accountant to said Commissioners.

Declared before me, at Dublin Castle,
this 25th day of January, 1865,
JOHN L. O'FERRALL.

APPENDIX.

SCHEDULE No. 3.

We, being Commissioners for Auditing the Public Accounts, hereby certify that the Account of the Commissioners of Charitable Donations and Bequests, as rendered by Robert Molloy, Esq., their Accountant, from 1st April, 1863, to 31st March, 1864, was signed and passed under the 4th section of the Act 2 & 3 Will. 4th, chap. 99, on the 15th September, 1864; and that the following sums form the Charge and Discharge on the said Account:—

	£	s.	d.
Charge, ...	718	5	4
Discharge, ...	577	12	8

and that on the said Account the Accountants are indebted in the sum of £140 12*s.* 8*d.*

Given under our Hand at our Office, Somerset House, this 15th day of September, 1864.

R. VAUGHAN DAVIS.
G. W. MABERLY.

SCHEDULE No. 4.

Return of the Amount of Government Stock standing to the credit of the Commissioners.

RETURN of Amount of Government Stock standing to the credit of the Commissioners of Charitable Donations and Bequests for Ireland, in the Books of the Bank of Ireland, on 31st December, 1864.

Bank of Ireland, 20th January, 1865.

I certify that it appears by the Books of the Bank of Ireland, there remained a Balance of £122,238 18*s.* 1*d.*, new 3 per cent. Government Stock, and £84,971 13*s.* 4*d.*, Government 3 per cent. Consols, to the credit of the Account of the Commissioners of Charitable Donations and Bequests for Ireland, on the 31st day of December, 1864.

For the Governor and Company of the Bank of Ireland,

W. T. BRISCOE, *Stock Leger Keeper.* ROBERT ROBERTS, *Transfer Officer.*

SCHEDULE No. 5.

Return of Debentures, the Property of the Commissioners.

RETURN of Debentures deposited in the Bank of Ireland, the property of the Commissioners of Charitable Donations and Bequests for Ireland.

Bank of Ireland, 19th January, 1865.

I certify that the following Debentures and Mortgage, the property of the Commissioners of Charitable Donations and Bequests for Ireland, have been deposited in the Bank of Ireland since the 26th March, 1848:—

		£	s.	d.
One Ballast Office Debenture for		92	6	2
A Mortgage upon the county of Dublin Rates for £184 12*s.* 3*d.*, bearing interest at 3 per cent. in place of	One Kinnegad Turnpike Debenture for	46	3	1
	„ ditto, ...	46	3	1
	„ ditto, ...	46	3	1
	„ Dunleer Turnpike do. .	46	3	1
One Ballingarry Loan Fund Debenture for		100	0	0
		£376	18	6

For the Governor and Company of the Bank of Ireland,

P. DUBEDAT, *Secretary.*

SCHEDULE No. 6.

Return of Cash Balance in Bank to the credit of Commissioners.

RETURN of the Amount of Cash standing to the credit of the Commissioners of Charitable Donations and Bequests for Ireland, in the Books of the Bank of Ireland, on the 31st December, 1864.

I certify that there remained a Balance of £547 4*s.* 2*d.* to the Credit of the Account of the Commissioners of Charitable Donations and Bequests' "Charity Account," in the Books of the Bank, on the 31st day of December, 1864.

Dublin, 26th January, 1865.

For the Governor and Company of the Bank of Ireland,

W. HODGES, *Accountant-General.*

SCHEDULE No. 7.

Schedule showing for what Trusts the Government Stocks under the Guardianship of the Commissioners are held.

SCHEDULE showing for what Trusts the Government Stocks under the Guardianship of the Commissioners of Charitable Donations and Bequests for Ireland are held, 31st day of December, 1864.

Donor or Testator.	Charity.	Government Consols. £	s.	d.	Half-yearly Interest. £	s.	d.
Aghalee Union Fund, .	Poor of Aghalee, ...	172	9	11	2	11	10
Aldworth, St. Leger, .	„ Newmarket, . . .	276	18	8	4	3	1
Aldworth, R. R. . .	„ do. . . .	102	19	10	1	10	11
Archbold, Mrs. . .	Derryaghy, purchase of spinning wheels, .	94	9	8	1	8	4
Belfast Fund, . .	Incorporated Charitable Society, . .	782	13	6	11	14	9
Boyle, Margaret, .	Coombe Lying-in Hospital, . .	387	3	11	5	16	3
Browne, Colonel R. .	Freshford Dispensary, . . .	112	19	0	1	13	10
Burgh Fund, . .	Poor of Naas, ...	361	2	7	5	8	4
Cavan Fund, . .	Cavan Sick Poor, . . .	903	4	2	13	10	11
Chapelliere, Louis, .	Kilkenny Marriage Portions, . .	426	12	11	6	8	0
Crawford, William, .	Kilwaugher Poor, . . .	48	15	0	0	14	8
Craven, Alice, . .	Limerick Poor Widows, . . .	714	16	6	10	14	6
Crone, John, . .	Poor of Doneraile and Cahirduggan, .	895	8	1	13	8	8
Ditto, ...	„ Ballingarry, . . .	1,116	11	5	16	15	0
Cunningham, Samuel, .	„ Killead, ...	114	8	2	1	14	4

Schedule—*continued.*

Donor or Testator.	Charity.	Government Consols. £	s.	d.	Half-yearly Interest. £	s.	d.
Davis, Rev. Samuel,	Mendicity Association,	55	16	4	0	16	9
Disraeli, Benjamin,	School at Rathvilly,	3,137	16	9	47	1	4
Ditto,	Poor of ditto, in purchase of provisions, Christmas Eve,	503	16	4	7	11	1
Edwards, Hugh,	Castlederg School,	291	3	1	4	7	4
Erskine, William,	Cavan Fever Hospital,	139	11	11	2	1	11
Fairbrother, William,	Poor of Wicklow,	124	11	9	1	17	5
Fanning, Jas., and others,	Waterford Fanning Institution,	34,981	7	10	524	7	4
Fanning, James,	Kilkenny, Poor of Five Townlands in,	3,790	3	10	56	17	1
Fox, Mrs.	Poor of St. John's Parish, Dublin,	54	17	4	0	16	6
Frost, Edward,	„ Dunganstown,	116	6	10	1	14	11
Goold, Michael,	„ Gurrane,	310	14	11	4	13	2
Graves, Dr. H. M.	„ Templemore,	54	13	11	0	16	5
Hall, Dr. J.	Alms-house and School, Limerick,	515	15	0	7	14	9
Hall, Rowley,	Poor of Lisburn,	113	14	1	1	14	3
Ditto,	Lancasterian School in Lisburn,	61	10	10	0	18	5
Hamilton, General,	The Minister of Holy Cross,	331	6	7	4	19	5
Hanrahan, Thomas,	Poor of Tuam,	201	15	11	3	0	6
Hodgens, Thomas,	Alms-house, Kildalkey,	32	9	0	0	9	9
Hore, Rev. Thomas,	Poor of Roscarberry,	274	6	7	4	2	3
Ditto,	Rossnacreina School,	4	2	11	0	4	3
Jackson, Margaret,	Hibernian Bible Society,	57	6	6	0	17	2
Ditto,	Poor of Monaghan,	607	2	8	9	2	1
Jacobs, Rev. R. S.	Protestant Poor of Killenaule,	69	12	6	1	0	11
Johnston, Mary,	Poor of Drumcree,	100	2	6	1	10	0
Julianstown Fund,	„ Julianstown,	126	18	11	1	18	1
Keatinge, R. S.	„ Drumcolloher,	153	10	11	2	6	2
Kennedy, John,	„ Hollywood,	216	14	11	3	5	0
Lawder, James,	„ Kilmore,	133	5	0	2	0	0
Lombard, Rev. G.	Six Poor People of Kilshannig,	228	5	10	3	8	6
Lowe, Robert,	Poor of Clonmel and Cashel,	24	0	9	0	7	2
Massey, Miss F.	„ St. Multose, Kinsale,	200	2	2	3	0	0
Masterson, J. J.	Manorhamilton School,	900	0	0	13	10	0
Mills, John,	Dinner on Christmas Day to Inmates of Wicklow Gaol,	117	8	1	1	15	3
M'Kenny, Elizabeth,	Poor of Slough,	56	14	10	0	17	0
Ditto,	„ Lisburn,	200	8	8	3	0	1
Molyneux, Sir Capel,	After death of Schoolmaster and Wife, to Poor of Loughgall,	666	13	4	10	0	0
M'Cluney, Robert,	Incorporated Charitable Society, Belfast,	109	18	9	1	12	11
Ditto,	Fever Hospital,	109	18	9	1	12	11
Ditto,	Surgical „	123	3	7	1	17	0
M'Cluney, Mrs. C.	Incorporated Charitable Society, Belfast,	51	14	10	0	15	6
Ditto,	Fever Hospital,	51	14	10	0	15	6
Ditto,	Surgical „	82	1	4	1	4	7
Ditto,	Ulster Deaf and Dumb Institution,	51	14	9	0	15	6
Newman, Mrs. E.	Poor of Kilshannig,	186	7	6	2	15	10
Northumberland Fund,	Mendicity Association,	5,180	18	10	77	14	4
Power, Rev. John,	Poor of Cahir,	656	0	10	9	16	10
Power, Mary,	Old Ladies' Asylum, Waterford,	2,487	1	11	37	6	2
Ditto,	Convent Children, do.	1,658	1	4	24	17	6
Ditto,	Poor Boys, do.	829	0	7	12	8	9
Quinn, Alice,	School and Poor of Waterford and Tramore,	666	1	6	9	19	10
Ditto,	Poor Debtors, Waterford,	520	14	7	7	16	0
Sandes, George,	Poor of Rosinallis,	207	14	1	3	2	3
Sinclair, Thomas,	„ Hollywood,	49	10	6	0	14	11
Ditto,	Belfast Fever Hospital,	49	10	6	0	14	11
Ditto,	„ Poorhouse,	49	10	7	0	14	11
Shanks, John,	Poor of Lisburn,	1,389	11	0	20	16	11
Smith, Bishop,	Pious charitable uses as the Bishop of Limerick, for time being, should direct,	903	7	0	13	11	0
Smith, Rev. Dr. Thomas,	Parishes of Annahilt and Magheralin,	50	0	0	0	15	0
Southwell, Rev. Dr.	Poor Protestants of Castlemartyr,	63	13	7	0	19	1
Southwell, Sir R.	Alms-house, Kinsale,	102	0	10	1	10	8
Stewart, Dr. William,	Poor of Lisburn,	56	11	7	0	16	11
Stopford, Bishop,	„ Kintennel,	199	12	9	2	19	11
Simpson, John,	„ St. Anne's, Shandon,	1,119	13	2	16	15	11
Swanzy, John,	Poor Protestants of Clontibret,	214	0	5	3	4	2
Tate, William,	Bread for Wexford Poor,	1,567	13	8	23	10	3
Thompson, Thomas,	Muckamore Abbey School,	274	6	11	4	2	5
Thomas, General Lewis,	Poor of Naas,	636	15	8	9	11	1
Trail, Archdeacon,	„ Lisburn,	58	18	4	0	17	8
Ditto,	„ Billy,	91	2	6	1	7	4

APPENDIX.

SCHEDULE No. 7.

Schedule showing for what Trusts the Government Stocks under the Guardianship of the Commissioners are held.

Schedule—*continued.*

Donor or Testator.	Charity.	Government Consols. £	s.	d.	Half-yearly Interest. £	s.	d.
Tuthill, Barbara,	Roman Catholic Magdalen Asylum, Protestant Blind Asylum, Protestant Orphan Asylum, Lying-in Hospital, Protestant Penitentiary, Poor Debtors in Gaols, Blanket and Fuel Fund, Limerick,	898	1	7	13	9	4
Ditto,	Protestant Widows, St. John's, Limerick,	88	1	5	1	6	5
Verner, Thomas,	Sunday-school at Donaghmore,	143	3	10	2	3	0
Ward, Hon. Sophia,	Poor of Ballyculter,	2,753	9	11	41	6	0
Ditto,	Mendicity Association, Dublin,	283	8	3	4	5	0
Ward, Right Hon. Robt.	School at Bangor, County Down,	2,023	9	6	30	7	0
Warren, William,	Poor of Rathconnel,	329	4	0	4	18	9
Williams, Henry,	Hospital for Incurables, Dublin,	322	11	0	4	16	9
Ditto,	Sick and Indigent Roomkeepers, Dublin,	215	0	3	3	4	6
Ditto,	Molyneux Blind Asylum, „	161	5	2	2	8	5
Ditto,	Old Man's Asylum, „	161	5	2	2	8	5
Ditto,	Deaf and Dumb, Claremont, „	215	0	3	3	4	6
Ditto,	Protestant Orphan Society, „	215	0	3	3	4	6
Ditto,	Methodist Widow, „	107	9	10	1	12	3
Wyse, James,	Waterford Poor Men's Asylum,	1,161	9	5	17	8	5
Ditto,	Coals for Poor of Waterford,	501	10	5	7	10	6
Wright, Joseph,	Poor of Monasteroris,	70	13	9	1	1	3
Waterhouse, William,	Fever Hospital, Waterford,	7	19	8	0	2	4
	Total,	£84,971	13	4	1,274	7	6

Donor or Testator.	Charity.	Government New 3 per Cent. Stock. £	s.	d.	Half-yearly Interest. £	s.	d.
Adair, Rev. Dr.	Fermoy School,	1,237	9	0	18	11	2
Allen, Joseph,	Poor of Gorey,	200	0	0	3	0	0
Aldworth, St. Leger,	Poor Annuitants of New Market,	327	8	2	4	18	2
Audoen's, St., Parish,	St. Audoen's Alms-house,	184	16	3	2	15	6
Banks, Anne,	Protestant Orphan Society, Limerick,	1,000	0	0	15	0	0
Ditto,	Lying-in Hospital, „	1,000	0	0	15	0	0
Ditto,	Clergy Widows' Fund, „	1,230	8	7	18	9	2
Ditto,	Barrington's Hospital, „	1,000	0	0	15	0	0
Ditto,	County Infirmary, „	1,000	0	0	15	0	0
Ditto,	Fever Hospital, „	1,000	0	0	15	0	0
Ditto,	Female Blind Asylum, „	500	0	0	7	10	0
Ditto,	Magdalen Asylum, „	500	0	0	7	10	0
Ditto,	Female Blind and Magdalen Asylum,	421	0	2	6	6	4
Barrett, Rev. Dr.	Sick & Indigent St. Michan's Parish, Dublin,	105	13	0	1	11	8
Batchelor, John,	„ St. Audoen's „ „	205	17	8	3	1	9
Ditto,	„ St. George's „ „	212	14	7	3	3	10
Ditto,	„ St. John's „ „	212	6	9	3	3	9
Ditto,	„ St. Luke's „ „	212	6	9	3	3	10
Ditto,	„ St. Mary's „ „	212	14	2	3	3	9
Ditto,	„ St. Michael's „ „	200	0	0	3	0	0
Ditto,	„ St. Michan's „ „	209	2	0	3	2	9
Ditto,	„ St. Nicholas in „ „	212	14	7	3	3	10
Ditto,	„ St. Nicholas out „ „	210	3	0	3	3	0
Ditto,	„ St. Paul's „ „	212	13	9	3	3	10
Ditto,	„ St. Thomas's „ „	212	10	6	3	3	9
Ditto,	„ St. Werburgh's „ „	212	14	2	3	3	10
Bellew, Bishop,	Schools at Killala,	2,000	0	0	30	0	0
Belvidere, Lady,	The Bethesda School, Dublin,	300	10	4	4	10	1
Ditto,	St. George's Parish School, „	298	19	4	4	9	9
Bennett, George,	Poor of Templemore,	234	7	0	3	10	4
Benton, Dr. John,	Poor of Drumard,	254	0	6	3	16	2
Bertrand, Peter,	Alms House, Dublin,	1,024	13	10	15	7	5
Blennerhassett, William,	Schools at Killorglin, County Kerry,	790	5	7	11	17	1
Bryan, Jane and Mary,	Poor Widows, St. Mary's, Shandon,	108	2	5	1	12	5
Board's private fund,	Embezzled Charity Recovery Fund,	1,397	13	0	20	19	2
Brereton, Rev. G.	Sick Poor of Rahan,	200	11	10	3	0	2
Brett, John,	Bread and Mutton on Christmas Eve to Poor Roomkeepers in Downpatrick,	296	7	10	4	8	11
Burrowes, Eleanor,	Cavan Fever Hospital,	260	7	2	3	18	1
Cliffe, Anthony,	Poor of New Ross,	457	8	0	6	17	2
Clarence School Fund,	Mendicity Association School,	1,000	0	0	15	0	0
Clendenning, George,	Vicar, for Protestant Poor of Westport,	190	15	3	2	17	3
Connell, William,	Poor of Clonfert,	74	1	0	1	2	2
Cotter, H. J.	Scriptural Education, Rahan, County Cork,	149	6	8	2	4	10
Crofton, M. A.	School, County Cork,	519	12	6	7	15	10
Cunningham, George,	Sick Poor Institution, New Ross; or, that failing, the Friends of Education,	1,382	0	2	20	14	8
Darcy, Nicholas,	Poor of Loughrea,	1,858	11	10	27	17	7
Deane, Moses,	Parish of St. Nicholas, Cork,	5,559	17	8	83	8	0

Schedule—*continued.*

Donor or Testator.	Charity.	Government New 3 per Cent. Stock. £	s.	d.	Half-yearly Interest. £	s.	d.
Deane, Moses,	Parish of St. Mary's, Shandon, Cork,	2,001	2	8	30	0	4
Deane, Thomas,	Cork Alms-house and Schools,	1,015	11	3	15	4	8
Delacherois, Nicholas,	Poor of Lisburn,	464	11	5	6	19	5
Denvir, Rt. Rev. Bishop,	Masses in Glenavey,	817	19	6	12	5	5
Destournel, Eleanor,	Poor of Castlemacadam,	104	1	4	1	11	3
Ditto,	„ Dungansfown,	95	16	3	1	8	8
Donovan, Rev. Edward,	„ Ballymere,	95	13	7	1	8	8
Eaton, Catherine,	„ Wicklow,	734	9	3	11	0	4
Farrell, James,	Clonmel Surgical Hospital,	589	17	2	8	17	0
Faviere, Rev. Jos.	Sir Patrick Dun's Hospital,	4,350	0	0	65	5	0
Felster, George,	Poor of German Church, Poolbeg-st., Dublin,	337	10	7	5	1	2
Freke, P. Evans,	„ Wexford,	12	4	1	0	3	7
Goff, Joseph,	School of St. Werburgh's, Dublin,	52	16	2	0	15	10
Green, Hannah,	Poor of Donnybrook,	115	7	0	1	14	9
Hamilton, Rev. J.	„ Killough,	645	17	11	9	13	9
Hall, Dr. Jeremiah,	Limerick Alms-house and School,	287	19	5	4	6	4
Hamilton, Quinton,	Poor of Glanmire,	551	11	0	8	5	5
Herron, Samuel,	„ Lisburn,	188	9	8	2	16	7
Higgins, Francis,	Debtors in Marshalsea, Dublin, at Christmas,	923	15	1	13	17	2
Hutchinson, Lady,	Curates' Widows, Ardagh,	1,008	19	5	15	2	8
Ditto,	„ Killala,	1,125	2	10	16	17	6
Ditto,	House of Refuge, Dublin,	504	11	10	7	11	5
Ditto,	Richmond Blind, „	504	11	10	7	11	5
Ditto,	Shelter for Females, „	504	11	9	7	11	5
Ditto,	Mercer's Hospital, „	504	11	10	7	11	5
Ditto,	Meath Loan, „	504	11	10	7	11	5
Ditto,	Magdalen Asylum, „	504	11	10	7	11	5
Ditto,	House of Recovery, „	504	11	10	7	11	5
Ditto,	Reception for Servants, ditto,	504	11	10	7	11	5
Ditto,	Molyneux Asylum, ditto,	504	11	10	7	11	5
Ditto,	Hibernian Bible Society, ditto,	504	11	9	7	11	5
Ditto,	Sunday School Society, ditto,	504	11	10	7	11	5
Ditto,	Sick and Indigent Roomkeepers' Society, do.	504	11	10	7	11	5
Hughes, Eleanor,	Orphans' Schools, Townsend-street,	898	18	2	13	9	8
Jackson, Myles,	Poor of Ballingarry,	1,212	3	4	18	3	7
Jackson, Margaret,	„ Clontibret and Cornibrook,	208	16	4	3	2	8
Ditto,	Church Missionary Society,	51	4	7	0	15	3
Keary, Michael,	Sick and Indigent Roomkeepers, Dublin,	250	1	2	3	15	0
Ditto,	Widows' House, Cork-street, Dublin,	250	1	2	3	15	0
Ditto,	Asylum, Rainsford-street, Dublin,	500	2	4	7	10	0
Ditto,	Education of Roman Catholic Children, St. James's Parish, Dublin,	500	2	4	7	10	0
Ditto,	Ditto, of Clontarf, county Dublin,	500	2	4	7	10	0
Ditto,	Ditto, of Baldoyle, do.	500	2	4	7	10	0
Ditto,	Ditto, of Howth, do.	500	2	4	7	10	0
Killala Fund,	Killala Clergy Widows,	1,319	1	4	19	15	9
Kendall, Anne,	Poor of Athy,	1,237	16	10	18	11	2
Kerevan, Dr.	Charitable Society, Kilkenny,	486	6	2	7	5	11
Ditto,	Benevolent, „ „	486	6	2	7	5	11
Ditto,	Walkin-st. Poorhouse, „	486	6	2	7	5	11
Ditto,	Female Orphan School, „	291	15	8	4	7	6
Ditto,	Chapel-lane, „ „	194	10	6	2	18	3
Kellett, Anne,	Schools, Meath and Dublin,	206	18	2	3	2	1
Leake, Surgeon,	Mendicity Association, Dublin,	3,876	18	0	58	3	0
Lee, Jane,	Poor of Carrickfergus,	211	8	4	3	3	6
Leighs,	„ Lisburn,	268	4	0	4	0	5
Lett, Stephen,	„ Mulrankin, Kiltrastran, & Moyglass,	46	3	0	0	13	10
Lill, Dr.	Armagh Infirmary,	917	8	3	13	15	3
Lovett, J. H.	Poor of Lismore,	558	17	0	8	7	8
Lowe, Robert,	„ Clonmel and Cashel,	1,285	2	2	19	5	6
Ditto,	„ Fethard,	187	12	1	2	16	3
Macklin, Ralph,	School Building Fund of St. Anne's, St. Andrew's, and St. Werburgh's, Dublin,	362	1	2	5	8	7
Madden, James,	Poor of Kilcoleman,	213	5	9	3	4	0
Magan, Elizabeth,	St. George's Protestant Parochial School, Dublin,	512	10	2	7	13	8
Mahon, Bartholomew,	Poor of Bumlin, Kiltruton, and Liscanuffy,	969	18	7	14	11	0
M'Call, Samuel,	Presbyterian Congregation, Cork,	415	2	10	6	4	6
Ditto,	Poor of Glanmire,	393	0	1	5	18	0
M'Kiernan, John,	Protestant Poor, St. Michan's, Dublin,	51	7	6	0	15	5
Ditto,	Roman Catholic Poor, do. do.	102	15	1	1	10	10
Moira Parish Fund,	Poor of Moira,	479	1	7	7	3	8
Morris, Thomas,	„ Lisburn,	97	4	10	1	9	2
Moxley, William,	Poor Tradesmen, Bandon,	455	0	11	6	16	6
Ditto,	Bible Society, do.	113	15	2	1	14	2
Ditto,	Missionary, do.	113	15	2	1	14	2
Ditto,	Benevolent Society, do.	113	15	2	1	14	2

APPENDIX.

SCHEDULE No. 7.

Schedule showing for what Trusts the Government Stocks under the Guardianship of the Commissioners are held.

APPENDIX.

SCHEDULE No. 7.

Schedule showing for what Trusts the Government Stocks under the Guardianship of the Commissioners are held.

Schedule—*continued.*

Donor or Testator.	Charity.	Government New 3 per Cent. Stock. £	s.	d.	Half-yearly Interest. £	s.	d.
Needham, Thomas,	Poor of St. Luke's, Dublin,	485	0	10	7	5	7
Newman, Henry,	Poor of Kilshannig,	53	8	0	0	16	0
O'Donnell, Mrs.	„ Burrishoole,	420	0	0	6	6	0
O'Neill, Hugh,	Apprenticing Fund, Dublin,	3,041	17	7	45	12	5
O'Neill, Mark Kerr,	Poor of Agherton,	287	9	5	4	6	1
Palmer, Roger,	Marriage Portions, Rush, county Dublin,	3,121	7	7	46	16	5
Paul, Mrs. Urith,	Stokestown (county Wexford) School,	6,114	5	9	91	14	5
Persse, Parsons,	School at Illerton, county Galway,	232	1	2	3	9	7
Power, Mary,	Old Ladies' Asylum, Waterford,	1,175	1	2	17	12	11
Ditto,	Convent Children, „	1,019	7	3	15	5	9
Ditto,	Poor Boys, „	507	17	0	7	12	5
Power, William,	Gurteen Asylum, county Waterford,	7,416	15	8	111	4	10
Purcell, William,	Kilkenny Poor,	659	8	5			
Rush, Judith,	Poor of Mullingar,	756	0	9	11	7	0
Ryan, Kennedy,	Charleville Roman Catholic Free School,	246	14	5	3	14	0
Smith, Henry,	Poor of Colpe,	193	16	0	2	18	2
Sproule, Andrew,	„ Urney,	717	19	0	10	15	4
St. Mark's Fund,	St. Mark's Hospital, Dublin,	845	17	3	12	13	10
St. Paul's Parish,	Coal Fund, do.	55	4	0	0	16	7
Stephenson, Dr. R.	Incorporated Charitable Society, Belfast,	946	14	11	14	4	0
Switzer, James,	Fever Hospital, Kilkenny,						
Ditto,	Benevolent Society, „						
Ditto,	Charitable „ „	3,755	5	4	56	6	8
Ditto,	County Infirmary, „						
Ditto,	Bread for Poor, „	2,234	12	5	33	10	5
Tew, Rev. William,	Ballysax School,	184	10	10	2	15	4
Ditto,	Poor of Ballysax,	46	2	9	0	13	10
Ditto,	Raddanstown School,	556	17	0	8	7	0
Ditto,	Poor of Raddanstown,	46	2	9	0	13	10
Ditto,	St. Werburgh's School, Dublin,	46	2	9	0	13	10
Ditto,	Kilcullen Hospital and Dispensary,	61	11	9	0	18	5
Thomas, Robert,	Poor of Tuam,	313	13	8	4	14	1
Tisdall, Allen,	Sick and Indigent Roomkeepers, Dublin,	92	16	4	1	7	10
Ditto,	St. Audoen's Parish, do.	46	8	2	0	13	11
Ditto,	St. Catherine's „ do.	46	8	2	0	13	11
Ditto,	St. Luke's „ do.	46	8	2	0	13	11
Ditto,	St. Michael's „ do.	46	8	2	0	13	11
Trail, Robert,	Poor of Lisburn,	97	4	11	1	9	2
Tuthill, Barbara,	Roman Catholic Magdalen Asylum, Protestant Blind Asylum, Protestant Orphan Asylum, Lying-in Hospital, Protestant Penitentiary, Poor Debtors in Gaols, Blanket and Fuel Fund, Limerick,	2,222	4	9	33	6	8
Ditto,	Protestant Widows, St. John's, Limerick,	70	11	8	1	1	2
Valentine, Rev. Thomas,	Killala Clergy Widows, and School at Frankford,	2,495	0	10	37	8	6
Verschoyle, Richard,	St. Catherine's Parish, Dublin,	526	2	4	7	17	10
Ditto,	St. Luke's „ do.	526	2	4	7	17	10
Waldron, Jeffrey,	Roman Catholic Schools, Denmark-street,	461	10	9	6	18	6
Ditto,	„ „ Liffey-street,	461	10	9	6	18	6
Ditto,	Orphan School at Wicklow,	611	10	9	9	3	6
Ditto,	Indigent Roomkeepers, St. Mary's Parish, Dublin,	530	0	7	7	19	0
Ditto,	Female Penitents, Donnybrook, near Dublin,	461	10	9	6	18	6
Ditto,	Widows' House, Clarendon-street, Dublin,	276	18	6	4	3	2
Walker, Hamilton,	Poor of Inniskeel and Killybegs,	117	1	4	1	15	1
Ward, Judge,	Killough Schools and Poor,	473	8	6	7	2	0
Ward, Hon. Sophia,	Mendicity Association,	1,723	12	9	25	17	1
Waring, Samuel,	Poor Housekeepers of Moira Parish,	104	5	8	1	11	3
Waterhouse, William,	Fever Hospital, Waterford,	157	7	5	2	7	2
Ditto,	Dispensary, „	50	13	2	0	15	4
Ward, Laurence,	Sick and Indigent Roomkeepers, Dublin,	545	9	10	8	3	7
	Total,	122,238	18	1	1,833	11	7

MORTGAGE AND DEBENTURES.

	Amount. £	s.	d.	Donor.	Object of Trust.
Ballast Office Debenture,	92	6	2	M. Boyle,	Coombe Lying-in Hospital.
*Two Kinnegad „	92	6	2	Rev. Dr. Smith,	Poor of Annahilt and Maralin.
*One „ „	46	3	1	—	St. Mark's Hospital.
*Dunleer Turnpike, „	46	3	1	M. Boyle,	Coombe Lying-in Hospital.
Ballingarry Loan Fund,	100	0	0	John Crone,	Poor of Ballingarry.
	376	18	6		

* The Debentures thus marked were given up and exchanged for a Mortgage upon the county of Dublin Rates, executed by J. Prendergast, Esq., Commissioner appointed under Act of Parliament, the 18 & 19 of Vic., cap. 69.

Schedule No. 8.

Return of Rents or Annuities under the Guardianship of the Commissioners of Charitable Donations and Bequests for Ireland, and in which the Title of the Charity has been established by decree or order, showing by whom created, whence derived, and the object of the Trust, and showing the Head Rents affecting same, to 31st Dec., 1864.

By whom created.	Gross Amount. £ s. d.	Head Rent. £ s. d.	Whence derived.	The Trusts.	Observations.
Peter Bertrand,*	686 3 10	190 6 0 Including renewal fine.	Lands and premises in Dublin,	Female Orphan School in Dublin.	* A sum of £2,400 has been borrowed upon mortgage, to pay off the Archbishop of Dublin; and the surplus rent is invested to form a a fund, which now amounts to £1,249 10s. 10d. stock, to redeem same. No part of the rent is applied for the purposes of the charity, nor can it be so applied until the mortgage is paid off.
Cordelia Carey,	355 19 0½	64 10 8	Rents of lands and premises in Dublin and King's County,	For Poor, for Schools, and several Charitable Institutions in Portarlington and Dublin.	
J. Crone,	64 12 3	—	Rent-charge of lands in county Limerick,	Poor of Ballingarry, county Limerick.	
John Crone,	64 12 4	—	Rent-charge of lands, county Cork,	Poor of Doneraile and Cahirduggan, county Cork.	
S. Cunningham,	23 12 2	8 0 7	Rent of lands in Killead, county Antrim,	Poor of Killead, county Antrim.	
Thomas Deane,	92 6 2	—	Rent-charge of lands in county Cork,	Alms-house and Schools in Cork.	
Hugh Edwards,	27 13 10	—	Annuity payable out of lands in county Tyrone,	School at Castlederg, county Tyrone.	
M. Goold,	9 4 7	—	Annuity payable under will of testator,	Poor of Gurrane, county Cork.	
Captain Grenville,	44 17 0	—	Tithe rent-charge of lands of Ballyvaloo, co. Wexford	Poor of Enniscorthy, county Wexford.	
Dr. J. Hall,	211 0 7	12 12 9	Rent of premises in town of Limerick,	Alms-house and School in Limerick,	These rents are received and administered locally.
R. S. Keatinge,	9 4 7	—	Annuity under testator's will,	Poor of Drumcolliher, county Limerick.	
James Lawder,	18 9 2	—	Rent-charge of lands in Kilmore, county Cavan,	Poor of Kilmore, county Leitrim.	
Dr. Lill,	62 1 3½	22 9 3½	Rent of lands in county of Tyrone,	Infirmary at Armagh.	
Robert Lanigan,	10 0 0	—	Rent of lands in county of Kilkenny,	Alms-house in county Kilkenny,	This rent is administered locally.
William Power,	26 15 0	—	Rent of lands in Gurteen, county Waterford,	Asylum at Gurteen, county Waterford.	
Parsons Persse,	23 1 6	—	Rent-charge of lands, county Galway,	School at Ilerton, county Galway,	This rent is administered locally.
Sir Robert Southwell,	46 3 4	—	Rent-charge of lands in counties Cork and Limerick	Alms-house at Kinsale, county Kerry.	
B. Tuthill,	69 4 8	—	Rent-charge of lands in county Limerick,	Magdalen Blind, Protestant Orphan Asylums, Lying-in Hospital, Penitentiary, Gaol, Blanket and Fuel Fund, and Protestant Widows, Limerick.	
Judge Ward,	67 3 3	—	Rent of lands in Bangor, county Down,	For Schools and Poor at Killough, county Down.	
Wm. Waterhouse,	54 10 0	21 16 6	Rent of house in Waterford,	Hospital, Dispensary, Fanning Institution, and Sick Poor, Waterford.	
Joseph Wright,	69 4 8	—	Rent-charge of lands in King's County,	Lying-in Hospital, Hibernian Marine Society, Dublin, King's County Infirmary, and Monasteroris Poor.	
Joseph Wright,	9 4 7	—	Rent-charge of lands in the county Monaghan,	Poor of Aghabog, county Monaghan.	
Total amount of rents,	2,045 3 9	319 15 9½			
Deduct head rents,	319 15 9½				
Net rents, £	1,725 8 0	—	Subject to poors' rate and receiver's fees.		

An annual gift of £200 heretofore made by the Hon. Sidney Herbert for the Parish Priests of Irishtown, Booterstown, and Bray, has been reduced by the Trustees of the Earl of Pembroke to £110, in consequence of the death of the Parish Priest of Booterstown, who received £90.

APPENDIX.

SCHEDULE No. 9.

Return of Charity Funds standing to the Credit of Causes and Matters in the Court of Chancery, and in which the Title of the Charity has been established by Decree or Order.

SCHEDULE No. 9.

RETURN of Charity Funds standing to the credit of Causes or Matters in the Court of Chancery, and in which the title of the Charity has been established by Decree or Order.

The Commissioners of Charitable Donations and Bequests against Francis Lill, John Stewart, and others.

Government New 3 per Cent. Stock, . . .	£4,399	3	1
Turnpike Debentures,*	2,500	0	0

The Commissioners of Charitable Donations and Bequests against the Rev. Edward St. Lawrence and others.

Government New 3 per Cent. Stock,† . . .	£3,534	0	9
Cash, ...	51	13	9

I certify that the foregoing sums remain in Bank to the credit of the matters above recited.

DIGBY P. STARKEY, *Accountant-General.*

Accountant-General's Office, Four Courts,
19*th January*, 1865.

* By letter received from Edward Clements, Esq., Turnpike Commissioner, dated 25th January, 1859, these debentures are stated to be totally valueless.

† These funds are held in Elizabeth Smith's Charity, and are to accumulate until they amount to £4,000; but they are subject to reduction in case the interest upon a fund in stock in the same charity should not be sufficient to pay two permanent Annuities with which such fund is charged.

Dublin: Printed by ALEXANDER THOM, 87 & 88, Abbey-street,
For Her Majesty's Stationery Office.

ANNUAL REPORT AND ACCOUNT

OF THE

ECCLESIASTICAL COMMISSIONERS FOR IRELAND,

for the Year ended the 1st day of August 1864.

TO HIS EXCELLENCY JOHN BARON WODEHOUSE, LORD LIEUTENANT GENERAL AND GENERAL GOVERNOR OF IRELAND, &c. &c. &c.

WE, the Ecclesiastical Commissioners for Ireland, whose hands and corporate seal are hereunto annexed, beg leave, in pursuance of the provisions of the Act 3 & 4 Will. 4, c. 37, to submit to your Excellency the Report of the proceedings of the Commissioners for the year which ended the 1st of August 1864, and to subjoin an account of their receipts and disbursements, distinguishing the specific sources from which all moneys have been derived, and the specific purposes to which they have been applied; also, an account of their receipts and disbursements in relation to Primate Boulter's and Primate Robinson's Funds.

The sum appropriated at the usual annual special meeting of the Board in December 1863, for the several Church Works of this year, amounted to 54,799 *l.* 11 *s.*; of this sum, 2,573 *l.* 13 *s.* 6 *d.* was set apart towards the completion of six Churches undertaken in former years, and 19,250 *l.* towards erecting 19 new Parish and District Parochial Churches, 116 *l.* 17 *s.* 6 *d.* to complete the amounts required for the enlargement of two Churches already partially provided for, and 5,872 *l.* towards the enlargement of 17 other Churches, and the residue, amounting to 26,987 *l.*, was appropriated to the repairs of Churches, and for fencing Churchyards, including the expenses connected with carrying out these several works.

The 19 Parish and District Parochial Churches, for the building of which grants were made, are,—

Templepatrick	in the Diocese of Connor.
Inniskinny Kilbrittain Killanully	in the Diocese of Cork.
Kilfergus	in the Diocese of Limerick.
Ardfert	in the Diocese of Ardfert.
A District Parochial Church at Ballyeglish, in the Parish of Ardtrea.	in the Diocese of Armagh.
A like Church at Drumoyle, in the Parish of Erriglekerogue	in the Diocese of Armagh.

A like Church at Clabby, in the Parish of Enniskillen A like Church at Garvery, in the Parish of Enniskillen and Derryvollan	in the Diocese of Clogher.
A like Church at Culmore, in the Parish of Templemore A like Church in the Parish of Donagheedy	in the Diocese of Derry.
A like second Church (Smithfield, Belfast), in the Parish of Shankill A like Church in the Parish of Carnemoney	in the Diocese of Connor.
A like Church at Kiltyclogher, in the Parish of Manorhamilton	in the Dioceses of Kilmore and Clogher.
A like Church at Killegriffe, in the Parish of Bailieborough	in the Dioceses of Kilmore and Meath.
A like Church in the Parish of Stillorgan A like Church at Miltown, in the Parish of St. Peter's	in the Diocese of Dublin.
A like Church in the Parish of Durriskilcrohane	in the Diocese of Cork.

The 17 Churches, for increased accommodation in which grants have been made, are—

Derryvollan	in the Diocese of Clogher.
Derg	in the Diocese of Derry.
Ballyphilip Donaghadee	in the Diocese of Down.
Ballysillan Dunseverick St. Paul's, Belfast Rathcavan	in the Diocese of Connor.
Killinkere	in the Diocese of Kilmore.
Knocknarea	in the Diocese of Elphin.
Howth	in the Diocese of Dublin.
Kilmeague	in the Diocese of Kildare.
Donamore Newtown Barry	in the Diocese of Ferns.
Carrigrohane St. Luke Monkstown	in the Diocese of Cork.

In the sum of 19,250 *l.* above mentioned is included 1,900 *l.*, granted in the previous year towards the erection of two of the Parish Churches, which are now included in this Report, inasmuch as the grants made in previous years were afterwards rescinded, the conditions on which same were then made not having been complied with within the period prescribed by the Board; and in the sum of 5,872 *l.* is included 465 *l.*, granted in the previous year towards the enlargement of two of the Churches, which are also included in this Report, inasmuch as the grants then made were afterwards rescinded for a like reason.

The Churches of Castlerahan, in the Diocese of Kilmore, Renvyle, in the Diocese of Tuam, St. Doolough's, St. Jude's, Kill, Tullow, in the Diocese of Dublin, Fiddown, in the Diocese of Ossory, the rebuilding of which was provided for in former years, have been completed; and the following are in progress, viz:—

Jonesborough Woodschapel	in the Diocese of Armagh.

Ahoghill

Ahoghill - - - - - - - in the Diocese of Connor.

Errismore - - - - - - in the Diocese of Tuam.

St. Andrew's - - - - - } in the Diocese of Dublin.
Clontarf - - - - - }

Abbeyleix - - - - - - in the Diocese of Leighlin.

Inniskinny - - - - - - in the Diocese of Cork.

Cahir - - - - - - - in the Diocese of Ardfert.

In addition to the sums thus appropriated, grants to the amount of 677 *l.* 10 *s.* 10 *d.* have been made towards building, repairing, and providing Licensed Houses of Worship in the following Parishes, viz.:—

Coolbuck - - - - - - in the Diocese of Clogher.

Dundelia - - - - - - in the Diocese of Down.

Killegriffe - - - - - - in the Diocese of Kilmore.

Burris-in-Ossory - - - - - in the Diocese of Ossory.

Leighmoney - - - - - - in the Diocese of Cork.

Templeomalus - - - - - in the Diocese of Ross.

Ventry - - - - - - - in the Diocese of Ardfert.

And a further sum of 240 *l.* 3 *s.* 10 *d.* has been granted for completing the works in 13 of the cases of this class mentioned in former year's Reports.

The subscriptions from private sources received within the year, in aid of the building, rebuilding, enlarging, and improvement of Churches and Licensed Houses of Worship, have amounted to the sum of 10,764 *l.* 3 *s.* 1 *d.*

The Commissioners have taken under the charge of the Board a District Parochial Church, which had been built in the Parish of Lisburn, in the Diocese of Connor, by the parishioners, without any assistance from the Commissioners; and also a Church, in the Parish of Rathmichael, in the Diocese of Dublin, built at the sole expense of Sir Charles Domville, Bart.

The Commissioners have, during the year, granted loans on mortgage to the amount of 5,732 *l.* 6 *s.* 9 *d.*, for building, improving, and repairing Glebe Houses in the following cases:—

Catleost - - - - - }
Clonard - - - - - } in the Diocese of Meath.
Kilbrew - - - - - }

Killevan - - - - - - in the Diocese of Clogher.

Kilcronaghan - - - - - } in the Diocese of Derry.
Clonmany - - - - - }

Kilkeevan - - - - - }
Ardcarne - - - - - } in the Diocese of Elphin.
St. Peter's, Athlone - - - }
Drumcliffe - - - - - }

Hollymount - - - - - } in the Diocese of Tuam.
Kilkerrin - - - - - }

Kilmore Erris - - - - - in the Diocese of Killalla.
Kilfinane - - - - - - in the Diocese of Kilmacduagh.

Whitechurch - - - - - } in the Diocese of Ferns.
Kilpatrick - - - - - }

Lorum - - - - - - - in the Diocese of Leighlin.

Kilmocomogue - - - - - in the Diocese of Cork.

Kilmoen - - - - - - - in the Diocese of Ross.

And a sum of 5,775 *l.* 13 *s.* 1 *d.* has been paid on foot of these loans, and of those referred to in last year's Report.

Under the provisions of the 32d section of 23 & 24 Vict. c. 150, the Commissioners have allocated a further annual sum of 1,500 *l.*, charged on income arising from Disappropriated Tithes, to the Augmentation of Benefices, the incomes of which were under 100 *l.*, which sum has been distributed amongst the following Benefices:—

Aghaloe	in the Diocese of Armagh.
Brackavill	
Ballymoyer	
Moy	
Woodschapel	
Altedesert	
Annaghmore	
Armaghbreague	
Aughavilly	
Ballygawley	
Charlemont	
Drumnakelly	
Meigh	
Richhill	
The Bar	in the Diocese of Clogher.
Broomfield	
Castle Archdall	
Coolaghty	
Errigle (Portclare)	
Lisbellaw	
Mullafadd	
Newtown Saville	
Shanco (Errigle)	
Crossduff	
Finner	
Garrison	
Kinnegad	in the Diocese of Meath.
Durrow	
Stonehall	
Castlejordan	
Girley	
Kilmainhamwood	
Burt	in the Diocese of Derry.
Drumclampt	
Inchisland	
Muff	
Derry, Chapel-of-Ease	
Edenderry	
Mountfield	
All Saints	in the Diocese of Raphoe.
Dunlewey	
Kilteevock	
Rossnowlagh	
Convoy	
Milford	
Hollymount	in the Diocese of Down.
Newtown Ards	
Castlewellan	
Grey Abbey	
Groomsport	
Newcastle (St. John's)	
Ballymacarrett	

Ballyclugg

Ballyclugg Glynn Gartree Newtown Crommelin St, John's, Malone Upper Falls Lisburn, Chapel-of-Ease Kirconriolagh Ballycastle Dunseverick Kildallock Rathlin St. Matthew's, Lisburn Smithfield, Belfast St. Mark's, Ballysillan St. Paul's, Belfast	in the Diocese of Connor.
Magherahamlet	in the Diocese of Dromore.
Killegar Quivvy Ballyjamesduff Ballaghameehan Derryleane Dowra Swanlinbar	in the Diocese of Kilmore.
Frankfield Templebready Ballinaboy	in the Diocese of Cork.
Kinsale Tracton Cullen Glengariffe	in the Diocese of Ross.
Calry Ahamplish Kilbrine	in the Diocese of Elphin.
Drehidstersna Chapel Russell	in the Diocese of Limerick.
Ventry Ballyseedy	in the Diocese of Ardfert.
Ballycarney Kilnehue Shellelagh	in the Diocese of Ferns.
Bilboe Mullinacuffe	in the Diocese of Leighlin.
Annacalla Kilmalinogue	in the Diocese of Clonfert.
Moggowna	in the Diocese of Killalla.
Clonlea Ardcroney Cloghjordan Feakle	in the Diocese of Killaloe.

Balbriggan - - - - -	in the Diocese of Dublin.
Ballinaclash - - - - -	
Calary - - - - - -	
Drumcondra - - - - -	
Garristown - - - - -	
Holmpatrick - - - - -	
Redcross - - - - -	
Kilbride - - - - - -	
Miltown - - - - - -	
Killiney - - - - - -	
Ballymore Eustace - - - -	
Booterstown - - - - -	
Malahide - - - - -	
Grey Stones - - - - -	
St. Paul's, Portarlington - - -	in the Diocese of Kildare.
Arran - - - - - -	in the Diocese of Tuam.
Killannin - - - - - -	
Monivea - - - - - -	
Moyrus (Roundstone) - - -	
Turlough - - - - - -	
Tubbercurry - - - - -	in the Diocese of Achonry.
Kilshane - - - - -	in the Diocese of Cashel.
Cappoquin - - - - -	in the Diocese of Lismore.
Ringagonah - - - - -	
Carrigamleary - - - - -	in the Diocese of Cloyne.
Fermoy - - - - - -	

On the recommendation of the Board, the Lords Commissioners of Her Majesty's Treasury have, under the provisions of the 6th section of the Act 23 & 24 Vict. c. 150, granted a superannuation allowance of 100 *l.* per annum to the gentleman who had discharged the duties of law clerk of the Ecclesiastical Commissioners for a period of 30 years, and had become permanently disabled by age and infirmity from the further discharge of his duties.

By the half-yearly returns of promotions, it appears that appointments have been made within the year to 83 Benefices, consisting of 6 dignities, 3 prebends, and 74 parochial benefices; of these 16 appear to be subject to ecclesiastical tax.

With reference to the vacancy which took place in the Prebend of Killenemer, in the Diocese of Cloyne, not having cure of souls, within the meaning of the statutes, the Commissioners recommended the appointment to it to be suspended, with which recommendation his Excellency the late Lord Lieutenant and the Privy Council were pleased to comply.

The Benefices of Taxax, in the Diocese of Cork, and of Aglishdrinagh, in the Diocese of Cloyne, in which, respectively, Divine Service had not been celebrated within the three years next preceding the 1st February 1833, having become vacant, the Commissioners have suspended the appointment of clerks thereto, and have assigned a salary of 30 *l.* per annum to a neighbouring clergyman for discharging the occasional duties of the parish of Taxas.

The Archdeaconry of Kilfenora, without cure of souls, having become vacant, the Commissioners forbore to make any recommendation, but submitted the communications they received to the Lord Lieutenant and the Privy Council, to be dealt with as might seem fit under the circumstances.

Thirty-nine applications for the purchase of Perpetuities have been received, and the sum realised from this source within the year has amounted to 1,289 *l.* 18 *s.* 5 *d.*; and for the liquidation of mortgages granted for perpetuity purchases effected in former years, a sum of 793 *l.* 2 *s.* 5 *d.* has been paid.

The

The following sums have been invested in Government Securities (:) 2,527 *l.* 1 *s.* to the credit of the Insurance Fund, and, temporarily, 19,095*l.* 18 *s.* 2*d.* out of the General Fund, pending the execution of the works for which cont racts hav e been entered into.

The annual account of the Trust Fund arising under Bishop Gore's will, from the impropriate tithes of Cahir Parish, in the Diocese of Lism ore, has been furnished by the Commissioners to the Bishops of Cashel, Waterford, and Lismore, pursuant to the direction of the Court of Chancery.

All which is submitted to your Excellency's consideration.

(signed) MARCUS G. ARMAGH.
RICH^{D}. C. DUBLIN.
MAZIERE BRADY, C.
JOS^{H}. H. MEATH.
PLUNKET TUAM, &c.
J. F. OSSORY AND FERNS.
THOMAS LEFROY, CHIEF. J.
ARTHUR EDWARD GAYER.
BENJ^{N}. LEE GUINNESS.
WILLIAM C. QUIN.

SEAL.

(signed) *Robt. F. Franks,*
Secretary.

Board Room,
24, Upper Merrion-street.

BY THE ECCLESIASTICAL

AN ACCOUNT of all their RECEIPTS and DISBURSEMENTS for One Year, ending the 1st been derived, and showing the Total Amount derived from each Source,

RECEIPTS.	£.	s.	d.	£.	s.	d.
Balance in Bank of Ireland, 1st August 1863, General Fund	-	-	-	12,354	1	7
Ditto - ditto - - ditto - Perpetuity Fund	-	-	-	1,767	11	9
Private subscriptions for building, enlarging, and altering churches	-	-	-	10,764	3	1
IN RESPECT OF INCOME.						
From See Estates	58,126	13	6			
– Suspended dignities, benefices, and disappropriated tithes, &c.	19,162	10	11			
– Charge on the See of Armagh	4,326	14	9			
– Ditto on the See of Derry	5,845	16	7			
– Tax on Bishoprics and Benefices	17,014	19	2			
– Glebe-house loan Instalments	3,719	10	6			
– Interest on Government Securities standing to the credit of the General Fund (principal for the most part under engagement)	2,918	7	4			
– Ditto - - - ditto - - - standing to the credit of the Perpetuity Purchase Fund	2,955	10	7			
– Ditto on moneys invested in Government Securities for repairs of Trustee Chapels of Ease	18	10	4			
– Ditto on moneys invested for Endowment Fund	102	1	4			
– Ditto on Perpetuity Mortgages	609	–	6			
– Ditto on investment for Insurance Fund	397	1	–			
– Ditto on Glebe House Mortgage Loans, under 23 & 24 Vict. c. 150	459	4	3			
– Income Tax refunded by Commissioners of Inland Revenue	1,904	15	4			
– Contributions from Economy Funds of Cathedrals	105	14	2			
– Bequest for keeping Donamon Church in repair	7	3	4			
– Malicious injury to Churches	5	–	–			
– Transfer from Deposit Fund	197	13	7			
– Miscellaneous	126	18	6			
				118,003	5	8
IN RESPECT OF CAPITAL.						
From Sale of Perpetuities	2,083	–	5			
– Sale of 3 per Cent. Consols	2,687	3	4			
– Instalments in repayment of Advance on account of Mortgage Loans, under 23 & 24 Vict. c. 150	332	16	2			
– Sale of 3 per Cent. Stock, General Fund	7,259	6	6			
				12,362	6	5
			£.	155,251	8	6

Dr. PRIMATE BOULTER'S AND PRIMATE ROBINSON'S FUNDS

	£.	s.	d.
To Balance in Bank, 31st July 1863	2,347	13	11
– Amounts received from Primate Boulter's and Primate Robinson's Funds	5,286	11	3
£.	7,634	5	2

COMMISSIONERS FOR IRELAND:

day of August 1864; distinguishing the specific Sources from which all Moneys have and the specific Purposes to which the Receipts have been applied.

DISBURSEMENTS.

	£. s. d.	£. s. d.	£. s. d.
In respect of Income.			
For Building Churches	12,500 7 2		
– Enlarging ditto	9,968 3 6		
– Repairs ditto	22,561 11 10		
– Extra repairs, ditto	273 4 11		
		45,303 7 5	
– Requisites for celebration of Divine Service	7,044 3 2		
– Clerks' and Sextons' Salaries	23,736 3 5		
– Organists and Organ Blowers, and for Tuning Organs	1,603 11 8		
– Fuel used in Churches	3,847 3 1		
		36,231 1 4	
– Stipends to Dublin Curates, under 3 & 4 Will. 4, c. 37	2,177 13 6		
– Ditto to Vicars Choral and Curates of suspended benefices, &c.	4,018 13 10		
– Ditto in augmentation of small benefices	5,034 18 10		
– Ditto to Incumbents of Tullow and Kill Parishes	242 18 4		
– Salaries to Diocesan Schoolmasters	235 8 6		
		11,709 13 –	
– Ministers' Money	– – –	12,664 19 9	
– Investment on account of Insurance Fund	– – –	2,527 1 –	
– Endowment Fund, paid Incumbents of Dunlewy, Jonesborough, and Brantry Churches	– – –	102 1 –	
– Superannuation Account	– – –	338 17 7	
– Quit and Crown rents	– – –	52 3 4	
– Salaries to Commissioners, Secretary, Treasurer, and Clerks, &c.	– – –	6,820 9 8	
– Rent, Rentcharges, Taxes, and other expenses connected with mensal and other lands	– – –	148 15 –	
– Salaries to Solicitor and Law Clerks, and Disbursements	– – –	909 1 –	
	£. s. d.		
– Income Tax deducted from Officers' Salaries	312 – –		
– Ditto paid direct for certain small properties	24 8 3		
	336 8 3		
– Postage	226 14 4		
– Advertising Proposals for Church works, &c.	153 6 6		
– Stationery and printing	326 16 10		
– Survey and Valuation of Lands	84 8 6		
– Rents, coals, candles, supernumerary clerks, and other incidents	1,228 5 7		
		2,356 – –	
			119,163 10 1
In respect of Capital.			
For Investment in Government Stock (General Fund) pending fulfilment of contracts for Church works	19,095 18 2		
– Advances on mortgages on Glebe Houses from Perpetuity Purchase Fund, under 23 & 24 Vict. c. 150	5,775 13 1		
– Enrolling and registering Perpetuity Certificates	410 1 10		
– Perpetuity Money returned	15 11 4		
		25,297 4 5	
			25,297 4 5
Balance in General Fund, 31st July 1864	10,121 8 7		
– Ditto in Perpetuity Purchase Fund, ditto	669 5 5		
		10,790 14 –	
			10,790 14 –
		£.	155,251 8 6

PRIMATE BOULTER'S AND PRIMATE ROBINSON'S FUNDS. *Cr.*

	£. s. d.	£. s. d.
By Augmentation of small Benefices	4,347 – 9	
– Purchase of 213 *l.* 3 *s.* 3 per Cent. Stock	193 10 –	
		4,540 10 9
Balance, 31st July 1864	– – –	3,093 14 5
	£.	7,634 5 2

E. E. (signed) *Geo. Lefroy*, Treasurer

ECCLESIASTICAL COMMISSION (IRELAND).

ANNUAL REPORT and ACCOUNT of the ECCLESIASTICAL COMMISSIONERS for *Ireland* to the Lord Lieutenant, for the Year ended 1st day of August 1864.

(*Presented pursuant to Act* 3 & 4 *Will.* 4, *c.* 37.)

Ordered, by The House of Commons, *to be Printed,*
9 *May* 1865.

268.

Under 1 oz.

From Vol 15

NATIONAL PORTRAIT GALLERY.

EIGHTH REPORT

OF THE

TRUSTEES

OF

THE NATIONAL PORTRAIT GALLERY

TO THE LORDS OF HER MAJESTY'S TREASURY.

1865.

The Trustees of the National Portrait Gallery have the honour to submit herewith their Eighth Annual Report.

Since their last, dated 18th April 1864, there has been no alteration in the Board of Trustees. It is, therefore, still composed as follows:—

Earl Stanhope (Chairman).
William Smith, Esq. (Deputy Chairman).
The Lord President of the Council (for the time being).
The Earl Somers.
The Earl of Dudley.
The Lord Stanley, M.P.
The Lord Elcho, M.P.
The Lord Robert Cecil, M.P.
The Lord Bishop of Oxford.
The Right Honourable the Chancellor of the Exchequer.
The Right Honourable B. Disraeli, M.P.
Sir Charles Eastlake, P.R.A.
William Stirling, Esq., of Keir, M.P.
Thomas Carlyle, Esq.
William H. Carpenter, Esq.

Since the day of the last Report (18th April 1864) up to the present day, the number of meetings held by the Trustees is six, and from the 9th of February 1857, when the Trustees commenced their duties (including the present meeting) 70.

The list of 51 donations, as given in their former Reports, may now be extended, as follows:—

52. General Washington, 1732—1799.
A drawing in Crayons, by Mrs. Sharples, from the life. Presented, June 1864, by James Yates, Esq, M.A.

53. Dr. Priestley, 1733—1804.
A drawing in Crayons, by Mrs. Sharples, from the life. Presented, June 1864, by James Yates, Esq., M.A.

54. James

54. James Harris, M.P., the learned author of "Hermes," 1709—1780.
Painted by Romney, after Sir Joshua Reynolds. Presented, February 1865, by the Earl of Malmesbury, G.C.B.

55. James Watt, 1736—1819.
Painted by C. de Breda in 1792. The picture was formerly at Soho, the residence of Mr. Boulton. Presented, February 1865, by M. P. W. Boulton, Esq.

56. Professor Wilson (Christopher North), author of the "Noctes Ambrosianæ, 1785—1854.
Painted in 1833 by Sir Watson Gordon, P.R.S.A. Presented, March 1865, by the Artist's brother, H. G. Watson, Esq. of Edinburgh.

57. The Marquis of Dalhousie, K.T., Governor General of India, 1812—1860.
Painted in 1847 by Sir Watson Gordon, P.R.S.A. Presented, March 1865, by the Artist's brother, H. G. Watson, Esq. of Edinburgh.

58. Thomas de Quincey, author of "The Confessions of an English Opium Eater," 1785—1859.
Painted about 1842 by Sir Watson Gordon, P.R.S.A. Presented, March 1865, by the Artist's brother, H. G. Watson, Esq. of Edinburgh.

The purchases made were stated by the Trustees in their former Report as amounting to 118. They are now increased, as the following list will show, to 133:—

119. James, First Earl of Charlemont, K.P. 1728—1799.
Painted by R. Livesay. Purchased June 1864. Price 73 *l.* 10 *s.*

120. Richard Wilson, the Landscape Painter, 1713—1782.
Painted by himself. Purchased June 1864. Price 30 *l.*

121. Henry, third Marquis of Lansdowne, K.G., 1780—1863.
Painted by Hoppner. Purchased June 1864. Price 78 *l.* 15 *s.*

122. Admiral Viscount Keppel, 1727—1786.
Painted by Sir Joshua Reynolds. Purchased June 1864. Price 400 *l.*

123. Robert Devereux, Earl of Essex, K.G., 1567—1601.
Painter unknown. Purchased June 1864. Price 52 *l.* 10 *s.*

124. Lord Chancellor Eldon, 1751—1838.
A Marble Bust, sculptured by F. Tatham. Purchased June 1864. Price 100 *l.*

125. John, fourth Earl of Sandwich, 1718—1792.
Painter unknown. Purchased July 1864. Price 20 *l.* 9 *s.* 6 *d.*

126. James Watt, 1736—1819.
A Wax Medallion, modelled by Peter Rouw in 1802. Purchased July 1864. Price 10 *l.* 10 *s.*

127. Samuel Taylor Coleridge, 1772—1834.
Painted by Washington Allston in 1814. Purchased July 1864. Price 100 *l.*

128. Shakspeare, 1564—1616.
The Engraving by Droeshout, from the first folio edition of Shakspeare's Plays, 1623. Purchased July 1864. Price 21 *l.*

129. Queen Elizabeth, 1533—1603.
Painter unknown. Purchased March 1865. Price 84 *l.*

130. John Law, Author of the Mississippi Scheme, 1681—1729.
Painter unknown. Purchased March 1865. Price 6 *l.* 10 *s.*

131. Samuel Taylor Coleridge, 1772—1834.
Painted for Joseph Cottle, of Bristol, by Mr. Vandyke, in 1795. Purchased March 1865. Price 16 *l.* 16 *s.*

132. Robert Southey, 1774—1843.
Painted for Joseph Cottle, of Bristol, by Mr. Vandyke, in 1796. Purchased March 1865. Price 16 *l.* 16 *s.*

133. John Keats, 1795—1821.
Painted by W. Hilton. Purchased March 1865. Price 43 *l.* 3 *s.* 6 *d.*

Since the earlier opening of the Gallery, at 10 o'clock instead of 12, as announced in the last Report of the Trustees to the Treasury, and up to the present date, 2,980 persons have visited the Gallery before 12 o'clock.

The

The total number of visitors to the Gallery during the last few years has been as follows :—

Year.	Visitors.
1859 - - - - - -	5,305
1860 - - - - - -	6,392
1861 - - - - - -	10,907
1862 - - - - - -	17,927 (Exhibition Year).
1863 - - - - - -	10,475
1864 - - - - - -	14,885

The Trustees have been encouraged by the great success of the experiment in recent years to open the apartments during the first three days of Easter week, and they have again been gratified at the results. On Easter Monday the visitors amounted to 783, on Easter Tuesday to 667, and on Easter Wednesday to 467. These were for the most part of the working classes, who would find it difficult to obtain a holiday for such visits at other periods of the year. The Secretary reports throughout in most satisfactory terms of their conduct and demeanour. Of Easter Monday he says more especially, "All persons were remarkably quiet and well-behaved, and not one single attempt to touch the pictures was observed. * * * I was again pleased to see how very much ready knowledge those of the humbler classes brought with them. * * * From casual conversation, I found many were printers and warehousemen, only able to get out once a year on these holidays, and that they had been at the Gallery last Easter also. They said that they still kept the printed list of the former year, and would now compare it with the new, to see what changes and additions had been made."

The great drawback, however, to the satisfaction of visitors on these and the like occasions, is the narrowness and inconvenience in all respects of the apartments which now form the National Portrait Gallery. The Trustees find themselves debarred from all attempts at arrangement or classification of the present pictures, and from all power to place them in favourable lights, and they have no space remaining for such accessions as they may continue to receive. They desire, therefore, to renew most earnestly the representation on this subject which in their Reports of the last two years they have felt it their duty to address to Her Majesty's Government.

Signed, by Order of the Board,

George Scharf,
Secretary and Keeper.

29, Great George Street, Westminster,
28 April 1865.

NATIONAL PORTRAIT GALLERY.

EIGHTH REPORT

OF THE

TRUSTEES

OF THE

NATIONAL PORTRAIT GALLERY

TO THE

LORDS OF HER MAJESTY'S TREASURY.

(Presented to Parliament by Her Majesty's Command.)

Ordered, by The House of Commons, *to be Printed,*
3 *May* 1865.

249

Under 1 *oz.*

ANNUAL REPORT of the COMMISSIONERS of EDUCATION in *Ireland*, for the Year 1864–65.

TO HIS EXCELLENCY JOHN BARON WODEHOUSE, LORD LIEUTENANT-GENERAL AND GENERAL-GOVERNOR OF IRELAND, &c. &c. &c.

WE, "the Commissioners of Education in Ireland," constituted by an Act of Parliament passed in the fifty-third year of the reign of his late Majesty King George the Third, and in obedience thereto, respectfully submit to your Excellency a General Report of the Proceedings of the Board since their last Report.

The duties devolving on the Commissioners in relation to the Endowed Schools in connection with our Board being chiefly those of supervision, and wholly unconnected with either the power or the responsibility of appointing any of the Masters or assistants, an Annual Report of the General Proceedings of the Board in reference to the Schools becomes to a great degree circumscribed.

The most important and flourishing of the Royal Schools is that of Enniskillen, where the number of pupils receiving instruction far exceeds that of any other, and where the entire arrangements were such as to give the highest satisfaction to your Excellency's predecessor, who paid a visit of some days to that establishment; the increase in the attendance of pupils and the repeated application of the Master induced us within the last year to undertake the erection of additional school and class rooms, which our architect reports to be now in a satisfactory state of progress towards completion. In consequence of representations made to us with regard to the charges for the instruction of daily pupils, we made certain suggestions to the Head Master, to which he at once acceded, and he reports that he has considerably reduced the charges for the education of daily pupils. We may also state to your Excellency that although there are daily pupils receiving gratuitous education at each of the Royal Schools, the number of such at Enniskillen is by far the largest.

At Dungannon Royal School, where, as stated in a former Report, we felt called upon to accede to the urgent appeals of the Master to sanction considerable additions to accommodation for the pupils, the condition of the School is very satisfactory. And we have to report to your Excellency that we have, since our last Report, made payment to the Master of another instalment of the large amount which he had advanced in payment for the buildings which had become necessary to adapt the School premises to the increase of pupils and to the modern requirements of such establishments. A considerable sum, however, still remains to be repaid to him.

The Armagh Royal School has, in consequence of some serious illness having appeared amongst the pupils, been temporarily closed.

At the Raphoe Royal School, notwithstanding its remote position, the exertions of the present Master have succeeded in establishing a continually increasing School; and the report of one of the former Fellows of Trinity College, who undertook the labour of examining the pupils for the prizes annually granted by us at this School, speaks in highly complimentary terms of the proficiency and answering of the candidates.

At the Banagher Royal School we have decided on granting, as at Raphoe Royal School, annual premiums for good answering of the pupils at examinations to be held by some person unconnected with the School.

In reference to the Royal Schools of Cavan and Carysfort there is nothing calling for any special notice to your Excellency. We may report that the various school premises have been, by the expenditure of such sums as were necessary, kept by us in a condition which is stated to be very satisfactory.

The periodical returns made to us by the Masters of the Schools show that the course of education generally is very extended, and that much more attention than formerly is now devoted to instruction in English literature, in modern languages, and in science.

The subject of the Royal Scholarships established by us in the University has, in former Reports, been so fully brought before the notice of the Executive, that it is merely necessary to state that these Exhibitions, which are obtainable solely as the results of competition, and which can only be retained by continued successful competition, are most highly prized; and, with a view to making them more generally valuable towards success in after life, we have made regulations extending the courses in which the necessary qualifications for retaining the Exhibitions may be obtained, including, amongst others, the competition for the Indian Civil Service. And we beg to annex to this Report a copy of our latest Regulations on this matter. We also submit a list of the names of the present holders of the Exhibitions, and the amounts payable annually to each, viz.:

On the Armagh Royal School Foundation:—

	£.		£.
R. Turle	50	H. Tracy	30
A. Robinson	40	M. Armstrong	20
J. W. Hogan	10	E. P. Riddall	50
C. Fausset	20	J. Gray	30

On the Cavan Royal School Foundation:—

J. J. Lough	£. 15

On the Dungannon Royal School Foundation:—

	£.		£.
H. B. Leech	50	W. Erskine	50
W. Colquhoun	50	W. K. Appelbè	30
C. Kough	50	T. H. H. Crossley	50
R. C. Christian	40	R. C. M'Kell	30

On

On the Enniskillen Royal School Foundation:—

	£.		£.
R. Bennett - - - -	50	J. B. Hutton - - -	30
W. A. Leech - - -	50	J. G. Gibson - - -	50
E. G. Cooper - - -	30	G. Wright - - - -	30
T. Hime - - - -	30	H. Norman - - - -	50
J. MacIvor - - - -	50	G. Hetherington - - -	30

It is very satisfactory to us to be able to state that many who, from time to time, have been holders of Exhibitions founded by us, have obtained and now occupy high positions in the public service.

The management, under our local agents, of the Estates vested in us necessarily requires much of our time and attention; and we have the gratification to state to your Excellency that, at present, they are generally in a satisfactory condition, and the tenantry on them are peaceably conducted.

On the Dungannon Royal School Estate, following the course adopted by us on some other estates, we have, at the solicitation of the tenantry, decided on building a school-house for the accommodation of their children, and we trust soon to have a School in operation.

Amongst the Schools of Private Endowment in connection with our Board, that at Midleton is rapidly regaining the high position it formerly held in public estimation; and it is reported to us that the additions and improvements recently made by us to the school premises have proved to be of the greatest advantage to the establishment.

The Tullyvin Endowed School, in the County Cavan, having much improved under the superintendence of the present Trustees, we have applied to its development all the pecuniary means under our control.

As no material change in reference to the condition of the Diocesan Schools generally has recently taken place, and as the attention of Government has been frequently pointed by us to this subject, we do not feel called upon to make any particular report in reference to them to your Excellency.

All which we respectfully submit to your Excellency as our Report.

(signed) MAZIERE BRADY, C. (L.S.)
F. BLACKBURNE. (L.S.)
RICHARD MACDONNELL. (L.S.)
ROBERT SHAW. (L.S.)
J. G. PORTER. (L.S.)
WILLIAM GIBSON. (L.S.)

Wm. Cotter Kyle, LL.D., M.R.I.A.,
Secretary.

8, Clare-street, 27 May 1865.

REGULATIONS of "The Commissioners of Education, in Ireland," as to the Royal Scholars.—1864.

"The Commissioners of Education, in Ireland," have founded 30 Exhibitions, called "Royal Scholarships," for students who shall enter Trinity College from the Royal Schools of Armagh, Dungannon, Enniskillen, or Cavan, viz., five scholarships of 50 *l.* per annum each for Armagh School; and five of 50 *l.* per annum, and five of 30 *l.* per annum for each of the Schools of Dungannon and Enniskillen; and five of 25 *l.* per annum for Cavan School.

These scholarships can be obtained by such students only as have been at least three years in all, previously to their entrance into Trinity College, pupils in some one or other of the Royal Schools. It is not, however, hereby intended to prevent pupils from moving from one of them to another; but the scholarships founded for the respective Schools of Armagh, Dungannon, Enniskillen, and Cavan, can be obtained only by students who have entered the University from the schools for which such scholarships have been founded.

The scholarships to be tenable for five years from the time of their being obtained, subject to certain conditions hereafter mentioned.

The Provost and Senior Fellows have signified their willingness to appoint Examiners in each year, to examine, on the first convenient day after the second entrance in the month of October, such students as shall have entered from the said four Royal Schools, and shall offer themselves as candidates for these scholarships.

In 1865 the examination will be in the course prescribed for entrance into T. C. D. (omitting Virgil's Æneid, Xenophon, and Lucian)—in the sixth Book of Herodotus, and in passages taken from such Greek and Latin authors as are not part of the T. C. D. entrance course.

In translating French into English.

In Modern Geography.

In such a knowledge of English literature, and the history of English literature, as may be derived from the Third, Fourth and Fifth Books of Milton's Paradise Lost, Johnson's Lives of Milton, Dryden, Addison, Swift, and Pope, and two of Shakspeare's plays, viz., the Second and Third Parts of King Henry VI.

In History—
Ancient—Genesis—Exodus, ch. i. xx. incl.—the historical part of Numbers—the Book of Joshua—I. Sam.—II. Sam.—I. & II. Kings.
Grecian—William Smith's.
Roman—Liddell's smaller History of Rome.
English—Student's Hume's History.

In Science—
Euclid—Books I. II. III. VI., excluding all deducibles.
Algebra—to the end of Quadratic Equations, excluding the theory of Equations.
Arithmetic—As in the T. C. D. entrance course.

Note.—The course of examination for Royal Scholarships will be, from time to time, varied by the Commissioners.

The examination will be carried on mainly by means of written papers; and, in addition to the examination by papers in the various authors, each examiner may, at his discretion, examine the candidate *vivâ voce* in one author.

The examination in History and Geography will be *vivâ voce*.

The proficiency of the candidates in Greek, Latin, and English Composition will be particularly inquired into; and also their knowledge of the rules of Greek and Latin versification, with their skill in making verses in both languages. Especial attention will be paid to the examination in Ancient and Modern History and Geography.

No fellow commoner can be admitted as a candidate for a Royal Scholarship.

No pensioner shall be admitted as a candidate for a Royal Scholarship who shall not have remained at one of the Royal Schools to which the scholarships are attached, till an October entrance examination in Trinity College, Dublin, of the same year as the examination for Royal Scholarships, at which he may be a candidate.

No sizar shall be admitted as a candidate who shall not have remained at such Royal School till the sizarship entrance examination immediately preceding the examination for Royal Scholarships, at which he may be a candidate.

No student who shall have attained 20 years of age shall be permitted to become a candidate for a Royal Scholarship. The age of the candidate must be proved to the satisfaction of the schoolmaster, and certified by him.

No student shall be elected a Royal Scholar unless he shall have, previously to the examination for Royal Scholarships, produced to the Secretary of the Commissioners a certificate

certificate signed by the Master of the Royal School from which he shall have entered Trinity College, Dublin, certifying that such candidate is duly qualified according to the above-stated rules.

The candidates from each school shall be examined together, and a return made to the Commissioners of their positive merit; and also an arrangement of the candidates according to their answering, without any distinction of schools; the Commissioners reserving to themselves the power of suspending or diminishing one or more scholarships, if sufficient merit has not been shown.

In cases of equality of merit, in all other respects, the poverty of a candidate will be taken into consideration. A student who has once been a candidate cannot be eligible on a subsequent occasion.

Students when appointed to these scholarships may retain them for five years from the time of their election, provided that, proceeding regularly with their respective classes, they obtain in each year of their undergraduate course one honour of the first rank, or two honours of the second rank. The election itself to one of these scholarships being reckoned as equivalent to one honour of the second rank, obtained in the junior freshman year; an University moderatorship obtained in the senior sophister year, an University scholarship, in whatever year obtained, the Berkeley Gold Medal, the Lloyd Exhibition, the Wray Prize, success at the First Indian Civil Service (competitive) examination, success at the Woolwich entrance examination, will rank as University honours of the first class; success at the Second Indian Civil Service Examination will rank as an University honour of the second class.

A Royal Scholarship shall become forfeited by the holder of it incurring any heavy collegiate censure, such as public admonition, or rustication; or when all the examinations of any year have elapsed without his having obtained in that year one honour of the first rank, or two honours of the second rank, or what is stated in the preceding regulations as equivalent to these honours respectively.

The exhibitions become due half yearly, viz., on the 1st of May and on the 1st of November. Payments will be made to such students only as have obtained in the preceding part of that year at least one honour of the second rank. A half-yearly payment, held over in May, will be made in November, provided an honour has been obtained in the meantime; and payment for the entire year will be made in November to such students as had not qualified for the May half-year's payment, and shall have then fulfilled all the requisites for the entire year.

In cases where very distinguished merit has been shown during their undergraduate course by students holding minor scholarships, and where scholarships for the same school remain suspended, or have been forfeited, the Commissioners will, at the close of each year, receive memorials for such distinguished students for an increase of their stipend.

Resolution of the Board of Trinity College, Dublin, adopted in compliance with the wishes of "The Commissioners of Education, in Ireland."

Resolved, That the scholars appointed from the Royal Schools by "The Commissioners of Education, in Ireland," be permitted to wear velvet caps, and that their names be inserted on the College books, immediately after the names of the University scholars, without, however, altering their degree of seniority amongst their class-fellows.

Midleton School.

"The Commissioners of Education, in Ireland," will grant annually two prizes, one of 30*l.* and one of 20*l.*, to such junior freshmen as shall, subject to the rules prescribed for the Royal Schools, have entered Trinity College, Dublin, from Midleton School; and having been examined along with and in the same course as the candidates for the Royal Scholarships, shall be recommended by the examiners as deserving candidates.

(signed) *William Cotter Kyle*, LL.D.,
Secretary to "The Commissioners of Education, in Ireland."

8, Clare-street, 26 November 1864.

EDUCATION (IRELAND).

ANNUAL REPORT of the COMMISSIONERS of EDUCATION in *Ireland*, for the Year 1864–65.

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FOURTH REPORT

OF

THE COMMISSIONERS.

WITH APPENDIX.

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FOURTH REPORT OF THE COMMISSIONERS.

TO THE QUEEN'S MOST EXCELLENT MAJESTY.

MAY IT PLEASE YOUR MAJESTY,

1. We, the Commissioners appointed by Your Majesty to inquire into the Employment of Children and Young Persons, in Trades and Manufactures not already regulated by Law, humbly present to Your Majesty the Fourth Report of our Proceedings in the execution of Your Majesty's Commission.

THE METAL MANUFACTURES OF THE SHEFFIELD DISTRICT.

2. Our Third Report dealt exclusively with metal manufactures.

3. Of the three principal denominations under which the metal trades and manufactures naturally fall, the two first, as stated in our Third Report, § 7 are:— Recapitulation of recommendations in Third Report as to furnaces and rolling mills.

I. The blast furnaces, in which iron is smelted.

II. The rolling mills and forges, in which the pig iron is converted into certain objects of manufacture, as plates, rails, rods, bars, wire, &c.

4. Upon the conditions of employment in reference to the young, and their physical and moral results, we gave in our Third Report the results of our inquiries in the districts of—

South Staffordshire,
Worcestershire,
Yorkshire,
Durham,
Northumberland,
Scotland,
North and South Wales.

5. We considered that inquiries embracing those districts were sufficiently exhaustive, the few localities omitted (North Staffordshire, Shropshire, Derbyshire, and one or two smaller ones) not presenting any peculiar features especially calling for investigation.

6. We therefore, on the evidence collected in the districts specified in § 4., felt called upon to recommend that the iron furnaces and the rolling mills and forges should be placed under the regulations of the Factory Acts; the principal effects of which in these branches of manufacture would be—

The abolition of night-work for the young,
The securing the half-time system of hours of work and education for all under 13.

We also recommended—

The abolition of Sunday work, &c.,
The forbidding the employment of females on the pit banks, and on the coke hearths.

And that—

The hours of meal-times, designated by the Factory Acts, should not be made applicable to the boys employed by puddlers.

7. The additions made to the evidence on these subjects in this Report, in reference to Yorkshire and Derbyshire, in no way vary the facts or the conclusions (Mr. White, a., Nos. 164–179); neither are they varied in any degree by the Report of Mr. Longe on the copper works of South Wales. (E. 1.) The facts and conclusions as to furnaces and rolling mills not varied by the additions to the evidence in this Report.

8. The third division which we adopted in our Third Report (§ 7.) was that of—

III. The miscellaneous metal manufactures,

and the localities with which we dealt, where these trades and manufactures are carried on to a great extent and in great variety, were those of—

The Birmingham District,
The Wolverhampton District,
The Lancashire District.

METAL TRADES OF SHEFFIELD.

The only remaining locality of any great importance was that of—

The Sheffield District;

and to this we proceed to call attention.

Classification of miscellaneous metal trades in Sheffield district.

9. The following classification of the miscellaneous metal trades and manufactures of this District is deduced from the evidence collected by Mr. White.

I. Grinders.

The different branches of the grinding trade are stated to be the following (a 2.)

1. Forks.
2. Spring knives.
3. Razors.
4. Scissors.
5. Table knives.
6. Edge tools and wool shears.
7. Saws.
8. Surgical Instruments.
9. Files.
10. Sickles.
11. Jobbing grinders.

II. General steel and iron manufactures, including a wide range of productions, from—

Armour plates.
Ordnance.
Heavy miscellaneous castings,
down to—
The finest files; and to
Wire almost imperceptible. (A. 15–18.)

III. Cutlery. This term is used in Sheffield in a narrower than the popular sense, being taken to mean only the—

Handling, Making up, and Finishing } of { Knives, Razors, Scissors, &c. } in { Bone, Ivory, and Wood.

IV. Electro-plate and white metal trades.

V. Brass founding. (Ibid.)

10. The succinct summary of the evidence given by Mr. White in his Report shows in the clearest manner, that all the circumstances which point to the necessity for protective legislation in behalf of the young, in the miscellaneous metal trades of the Birmingham and Wolverhampton districts, as detailed in our Third Report, exist in the same, and in some respects in even a greater degree, in the Sheffield district.

Recommendation of 3rd Report applicable to Sheffield.

11. It results also from the consideration of the evidence that the recommendations which we had the honour to submit in our Third Report, as applicable to the case as far as it was then before us, are, as we anticipated, no less applicable to the Sheffield districts, and to the few other small localities of the miscellaneous metal manufactures of the kingdom.

Only a few points in Sheffield district will be touched upon.

12. We only therefore think it necessary in this Report upon the Sheffield district, to touch upon a few points which seem specially to deserve attention.

Previous Reports on the Sheffield district.

13. The conditions under which the grinding trade is carried on in Sheffield have for many years attracted notice. The evidence collected by Mr. Jelinger Symons under the Commission of 1841 discloses the terribly destructive nature of the occupation. It also proves that mechanical precautions of a simple and inexpensive nature, and due attention to the sanitary state of the places of work, would have a most important effect in diminishing the evils connected with the employment.

Report of Mr. J. Symons in 1841.

Report of Dr. Greenhow in 1860.

14. Dr. Greenhow, under directions of the medical officer of the Privy Council, renewed the inquiry in 1860, as a portion of his more general investigations into the industrial conditions of the population in various districts having excessive mortality from lung disease. He showed that the very high rate of mortality amongst the grinders still continued, and that it might be stated to amount to an annual average rate of 13 per 1,000, "a rate which nearly corresponds with that among the men of the lead "mining districts, is considerably higher than that of the men of the principal manu- "facturing towns, and is more than double the rate which has prevailed in any one of "the three extensive rural areas in different parts of the kingdom, which may be used "as standard or normal rates." (Third Report of the medical officer of the Privy Council, 1860, p. 123.)

15. Dr. Greenhow attributes the excessive mortality to three principal causes; 1, the liability to inhale dust; 2, the maintainance of a constrained position while at work; 3, working in ill-ventilated work-places.

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16. Of the first, the liability to inhale dust, he states that it is "the most efficient cause "of pulmonary disease among the operatives of Sheffield, and also that which is most "capable of proof" (p. 120).

Dr. Greenhow's description of the various occupations in Sheffield.

17. The following is a full and comprehensive description by Dr. Greenhow of the various occupations in Sheffield, in which the workmen are liable to inhale an atmosphere charged with different kinds of dust,—metallic, and that arising from stones, bone, ivory and other materials.

"The liability to inhale an atmosphere more or less charged with dust, is common to the operatives employed in several of the manufacturing processes of Sheffield, such as the grinders of cutlery or other steel goods, the cutters and polishers of bone and ivory handles, the polishers of combs, the converters of iron into steel, the hacklers of Mexican fibre, and the sorters of hair. Of these several classes the grinders are probably the most numerous, and are unquestionably those whose health is most liable to be injured by their occupation. Their work consists in grinding the edge of knives, razors, scissors, tools, and other articles of cutlery, the points of forks, and the 'bolster' or rounded part near the handle of table knives, the shanks of scissors, the backs of razors, and such like articles. They are called, according to the articles which they grind, razor, fork, knife, scissor, saw, scythe, or file grinders, and may be conveniently classified as dry, wet, or mixed grinders, according to whether they grind exclusively upon a dry or wet, or sometimes upon a dry, sometimes upon a wet grindstone.

"To whichever of these classes the grinder may belong, he is exposed to the danger of inhaling air loaded with fine dust, both while 'razing,' *i.e.*, preparing, and 'hacking' the grindstone. The former of these processes is in general only required when fresh stones are being hung, and the operation consists in bringing the stone, while revolving on its axis, into shape, and to the requisite evenness, by means of a bar of steel. Clouds of dust are formed during the process, and fill the atmosphere of the workshop. Stones wear out quickly or slowly, according to the nature of the articles ground upon them, some lasting for five or six months, others wearing out in the same number of weeks. Hence the frequency of the grinder's exposure to this cause of a dusty atmosphere varies much according to the nature of his employment. Grindstones commonly require to be hacked daily, sometimes twice or thrice in the day. This process consists in roughing the grinding surface with a pick-axe. The stones are both 'razed' and 'hacked' while in a dry state; and, excepting that some of the more prudent workmen cover the mouth with a handkerchief, to prevent their inhaling the dust, no precaution is used to guard against the danger to health arising from this cause.

"Dry grinders use the dry stone only, and large quantities of fine dust, composed partly of steel, partly of sandstone, are produced during the act of grinding. These men formerly adopted no precaution against inhaling the dust, which they are apt to do very freely, seeing that they sit directly behind, and, as it were, astride the stone, in order that they may be close to their work. Some still continue to work in the old manner, without protection; but the greater number now use a fan, similar to that used by the needle-pointers, which draws the dust into a shaft, and very greatly diminishes the liability of the grinders to suffer from this cause of pulmonary disease. The value of the fan was fully exhibited in some of the fork grinders' shops, where streams of sparks, as the red-hot particles given off from the friction of the stone and steel appear to be, were observed suddenly to turn downwards into the shaft as they came within the influence of the in-draught of air.

"After being ground the articles are finely polished, or, as it is called, 'glazed,' upon a wooden wheel, coated with a paste containing emery. Dust is evolved in this process likewise, but much less abundantly than in dry grinding. The same men sometimes do both kinds of work, but more frequently the grinders have apprentices, or hire journeymen, to glaze the articles when ground. The principal articles ground on the dry stone are forks, razor backs, the 'bolsters' of knives, the rounded parts of scissors, gimlets, augers, and various other tools; the bright rounded portion of fenders, fire-irons, and stove grates, and spindles and flyers for spinning-mills. In grinding the smaller articles the men sit behind their work, towards which they lean, but in grinding larger articles they sometimes stand. A factory at Leeds was visited, where spindles and flyers are ground, and where the stones are placed at such a height as enables the men to stand conveniently at their work, and are so well screened, that, aided by a powerful fan, the operatives are effectually protected from the dust. By working in a standing position they also avoid the stooping position maintained by the Sheffield grinders, which is supposed to be one cause of their tendency to suffer from pulmonary disease. It is found to be difficult to screen the grindstone so effectually in grinding large unwieldly articles, such as fenders or fire-irons; and as the fan does not work well unless the stone is partly encompassed by a screen, the men employed in grinding such articles are more exposed to the evils arising from their occupation than other dry grinders.

"Wet grinders work entirely upon a stone which, revolving in a trough of water, is kept constantly wet while at work. They are exposed to the same influence as other grinders while razing and hacking the stones, and, like them, also stoop much while at work. Wet grinders are exposed to damp, and are liable to get wet in the legs and feet. The grinders assert that the use of the wet stone does not entirely prevent the evolution of dust, but that a small quantity of very fine dust, only perceptible in bright sunshine, is given off into the atmosphere. The edges of cutlery and edge tools, saws, and files, are ground upon wet stones. Mixed grinders work partly upon a wet, partly upon a dry, grindstone. A considerable difference exists in the proportion of time spent by mixed grinders in the respective processes of wet or dry grinding, which varies according to the nature of the articles ground."

Same causes of disease still in operation.

18. Mr. White, conducting his inquiry in 1865, shows that the same causes of excessive disease are in operation with the same fatal results.

As to fork grinders.

19. Of the fork grinders it was said by Dr. Hall in 1857 that they are "exposed to "influences which have a tendency to rob them of 25 years of their lives, and to deprive, "to that extent, their wives and families of the benefit of their labour and to fill the "union houses with their widows and orphans" (a. 2.) In an address presented to the

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public the fork grinders stated that their average age at death did not exceed 30 years (*ibid.*) In the same year the average ages of the grinders at death at five out of the ten principal places of work in Sheffield were given by Dr. Hall, as follows :—

Name of Wheel.	Return of Deaths since the Year	Average Age at Death.
Messrs. J. Rodgers and Son	1836	42
Union wheel - -	1850	40
Soho wheel - -	1845	40
Old Park wheel - -	1844	41
Suffolk works - -	1845	38½

20. In an inquiry 20 years previously by Dr. Holland, formerly physician to the Sheffield General Infirmary, the same fearful rate of mortality amongst some kinds of grinders is shown, and their condition, Mr. White states, "remains the same" (a. 3.)

Razor grinders.

Among the razor grinders at that time, 749 out of 1,000 died under 40 years of age, whereas in the town generally only 352 died in 1,000; less than one-half. Dr. Holland proceeded to say that he was anxious that those facts should be clearly understood, anticipating that the time is not far distant when the Legislature will deem it necessary to interfere to arrest the progress of evils which admit to a considerable extent of remedial measures (*ibid.*), and he added that "the circumstances which abridge life, fall also with "peculiar severity on the young employed in the trade."

21. A few instances from the evidence of the men found at work at the present time by Mr. White will suffice to show that although "some improvement has been made" since that time the general features of the case remain the same.

22. William Attersby, file grinder, states (a. 23),—

File grinders.

"We file grinders grind wet; my stone looks so dry, because if I had much water it would take the cut off the stone too much. It is not at all healthy work. I feel 20 years older than I did seven years ago. I began at 10 years old, and am now 39. File grinders' average age is only 32. I know this, because I was asking our secretary the other day what it was now. I buried one brother at 29, another at 39, and my father died at 36; all three were file grinders. One brother died of the grinders' asthma, the other broke a blood-vessel."

23. The account given of himself by a witness, Joseph Travis, now an in-patient in the Sheffield Infirmary, is characteristic of the class (a. 25),—

"Till 12 years old I helped at farm work, and it would have been a good job if I had kept to it. I then went to the grinding. It is a destructive trade, though the grinding is done wet. It works in two ways. First, you must stoop over it so and have all the weight to throw from the chest, and it is very heavy work. Some files are 13 or 14 lbs. It is not as if any one were working loose or free. Besides this it hurts the breath, owing to the steel and the smell of sulphur. The steam rises, especially when you take up the file to look at it, and the steam has stone and iron in it, which get inside you and set there like steel itself. You can taste it as plain and spit it as if you were spitting steel." * * "By 40 it had got hold of me, the asthma, we call it; there is no remedy for it. Before that I had not found it so much, but always after working hard I had felt all the steam in me and felt my breath bad. I was pretty steady in the fore part of my time, but I have drunk my share for the last 20 years. Drinking, however, has, I think, nothing to do with it. I have seen some 'go off' without drinking, and others who have drunk hard and worked hard, go on longer. There are only two or three men, I should think, in the trade older than I am, viz., 55. They seem to rot off at 34 or 35, and some at 23 or 24, according to their constitution."

Mr. White's general summary of influence of employment.

24. The summary given by Mr. White (A. 100) of the influence of the grinders' employment upon their physical condition is conclusive as to the general prevalence at the present time of the evils, causing severe injury to health and premature decline and death in that occupation.

Number subject to those influences.

25. The number subject to such influences are undoubtedly considerable. The exact statistics of the trade are not to be gathered from the census returns of 1861, as the classifications "do not follow the many technical divisions of the Sheffield trades" (a. 30.) The nearest available approach to an accurate return is therefore that given by Dr. Hall in 1857, from which it appears that at that time the number of grinders in and near Sheffield was 5,029, of whom about 3,110 were men, and about 1,847 were under the age of 21. The table embodying the 11 different branches of the occupation of grinding, with the numbers of men and boys employed in each branch, and a volume showing the average age of all those above 21 then living and at work at the trade is given at b, page 2.

Remedial measures.

26. The principal remedial measures for the great amount of human suffering and loss of life shown to exist in this branch of trade is happily one, the efficacy of which has been distinctly proved by experience, and which is neither costly nor difficult of general application. Not only in the case of dry, but also to a certain extent in that of

wet grinding, the use of the fan has long since been acknowledged to be of great value as a protection from disease. On this subject Mr. Joseph Mallinson, secretary to the razor grinders, thus expresses himself (a. 38),— Metal Trades of Sheffield.

"The average age of razor grinders at death has been taken at different times, and usually estimated at 36, but it is now I believe 42. This change is owing to the more general use of the fan. Temperance and steady habits make a great difference to the effect of the work on the health, but I do not think there has been much improvement in the trade as regards these."

27. William Brown, cast-fork grinder, states (a. 12),—

"Began this trade at 10 years old. Worked a many a year without a fan, but for the last 18 have had one, and should not like to work without it now. Have found great benefit from it, and anyone would that works dry. Before I had it I used to feel the dust upon my lungs. Now I can work full days and am pretty well for health." * * "My fan works for my three troughs, for the dry-grinding, glazing, and all. There is a deal of dust from glazing. It cost me 35*s.*, and 18*s.* more for fittings."

28. Joseph Sanderson, fork grinder, states (a. 14),—

"I grind steel forks part of my time, perhaps a third, and metal forks the rest. The hull is very small and the five troughs crowded side by side as close as they can be. There is a fan which acts for all the five troughs. It was put up by the proprietor, and with the fittings complete for all the 10 workers, cost probably about 5*l.* We do not pay anything more for it. This used to be required sometimes, I believe, but now fans are more common, and I do not think that they are charged for.

"There is no comparison between working with a fan and without. Men did not live beyond 35, and now there are some as old as 60. Have worked with a fan for the last 15 years, and am now 49."

29. Thomas Roebuck, states (a. 15),—

"About five years ago I put up a fan for two troughs at my own expense and find great benefit from it. It cost me 4*l.* 10*s.* But when I work hard I feel a pain in my side still, because you cannot get rid of all the dust.

"We find all our implements, *e.g.*, stones, bands, &c., everything in fact but power and fixtures, for ourselves. The rent paid is 6*s.* a week for two troughs, or 3*s.* 6*d.* for one. This is the general way all over Sheffield."

30. William Attersby, states (a. 23),—

"There is no question but a fan would do a great deal of good at wet-grinding as well as in dry if we could have it. But so much wet flies off the stone that a fan would not carry off. You can see how thick it cakes on the board opposite. In a short time it will be as thick as that (nine inches)."

31. John Mason, edge-tool grinder, states (a. 27),—

"I began many years ago, very young, and have worked in five or six different wheels, but never had a fan in any. It is the best plan that ever was invented. The reason why grinders do not use it more is that it is a bit of expense. A fan for this hull, with pipes for each of the 12 troughs, so as to give the benefit to all, would cost about 10*l.*, perhaps."

32. Again, where wet and dry grinders work in the same room, the use of the fan is desirable for both parties.

33. Mr. Jonathan Wragg, secretary to the table-knife grinders, states (a. 39),—

"Fans are not used at all by table-blade grinders, as so little of the grinding is dry, and the stone used is of a very hard kind and not so destructive as the soft kinds used for some other things, *e.g.* razors. Indeed I do not know of any wet grinding in which fans are used. Dry grinders, however, work in the same room with wet grinders, but one of the latter, *e.g.* a file grinder, likes to get as far as he can from one of the former. The dust of his neighbour is no doubt an annoyance to him. I have never myself found much inconvenience from either my own or my neighbour's work, except from the noise made by stove-grate grinding in the same hull, which is very great. No doubt if the windows were close, like those of this sitting room, I should feel great annoyance from the dust."

34. William Dyson, formerly a scissor grinder, states (a. 40),—

"It is true that the fan, when used, takes away much of the bad effects of the work, but it is only very partially in use, and the men have now to work longer hours. The regular trade hours at wheels are from 7 till 7 or from 8 till 8 and the men cannot work longer, as the engines only run for that time. But the men work very irregularly, some not more than three days in the week.

"The fans are used in some, but only in a few places. Taking Sheffield through, not one hull in three has them; most of the fork grinders have not. If there is one which the men can use, they often do not, and if you ask them why they do not, they say, 'What do I want with a 'fanny?' 'A short life and a merry one' is their rule. When it is used, the pipe is put up by the men themselves, at their own cost, and if a man has the thought to put one up he generally has the thought to use it, but it is only the more thoughtful who have. Those who have put them up and used them at their own wheel complain much of the inconvenience which they suffer from the dust, if, as sometimes happens from an accident, &c., they have to go and work at another wheel where there are none, but others do not seem to mind. Some of the wheels are in a very bad state; killing shambles, I call them."

35. As to the expense of putting up fans, it has been seen in some of the instances above quoted how small it is. The following evidence is conclusive to the same effect:— Expense of fans small.

36. Mr. Joseph Mallinson states (a. 38),—

"The fan could easily be applied to any kind of work in which dry dust is produced. I used it myself even at polishing. In grinding the kind of razors of which the largest quantities are made, a man will be perhaps only an hour or so in each day working on the dry stone. If a grinder has a boy, the boy will do more of the dry work than the man. Boys begin with glazing and polishing. The fan is used by many dry grinders, but by no means by all; I cannot say by what proportion, but should think that perhaps seven out of ten who do dry work do not use it. I attribute this more to the

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neglect of the men than anything. Steady men generally get one for themselves, but they may suffer from others who work near them and will not use it. A fan fitted for a single trough will cost about two guineas, and for a whole hull, with six troughs, perhaps four guineas."

37. Mr. Wragg states (a. 39, page 10),—

"The expense of making wheels fit to work in and comfortable would be so small that it could not increase the rent enough to matter to the grinders. It need not increase it all, for at some of the best arranged and most comfortable wheels the rent is as cheap or cheaper than at the worse. Some of the worst are small places in which a master has his work done on his own premises."

38. —— Tingle, fork maker and grinder, states (a. 58, page 13),—

"There is no fan. Landlords and owners of wheels ought to put them down for us. It is a very trifling expense. One might be put and fitted for all the troughs in here for 5*l*. They are put in some places, but some boys are put to grind in little chambers as dusty as possible."

39. Charles Tingle states (a. 59),—

"There ought to be a fan. If there were we should have to pay for it. They are all prices, from 30*s*. upwards. At some wheels the landlords put them up and charge for them with the trough. The rent for my trough with places for myself and a boy is 3*s*. 3*d*. a week, and we find our own candles, &c.

"All this dust in my trough is come since last Saturday. People fetch it away every week to mix with lime for mortar,as it sets so hard. Had this stone new five weeks ago, but it is worn so low that I shall want a new on Saturday. Have to chip it several times a day to make it bite."

Instances of successful use.

40. In the three needle and hackle-pin manufactures, about 10 miles from Sheffield, it appears that the "arrangements made to guard the workers from the deadly effects" of the steel dust by the use of the fan are very good (a. 66). Of these fans Mr. Joseph R. Cocke, hackle-pin manufacturer, thus speaks (a. 74),—

"A brother of mine invented the fans now used for pointers. They are now used by Government for different purposes, such as pumping air into ships. It is a very considerable expense to us. The one which we use for our 10 pointers cost, with the apparatus complete, 100*l*., and besides this it takes three horse-power every day to drive it. It drives the air through a tube of some inches square at the rate of six miles a minute. I never calculated how much dust it carries off in a day, but 20 lbs. weight of steel with the average kind of work would be ground down to 15 lbs., and in some cases to 14 lbs. The benefit to health is very marked. The men used to die at the age of from 32 to 48, and the oldest grinder to be found in the trade anywhere, I believe, was 40; now they are, I should say, decidedly as healthy as men in any indoor employment, *i.e.* those of them who began work since the fans were in use. Some others, who began before, are still liable to be affected by the work. The men themselves well know the value of the fan, and if it will not work, as through a strap being off or anything, they would not keep on two minutes, and I could not persuade them. Our grinders only work six hours a day."

41. Mr. Newbold also, one of the well-known firm of Messrs. Rodgers and Sons, thus speaks of the beneficial effects of the fan (a. 206).

"The fan has very much diminished the bad effects of this work, but often the men do not use it. It is in one part of the hull, and communicates with the separate trough by bands. Sometimes, however, from mere neglect a man will work without using it, and when asked why he does so will say, 'Oh, I did not know the band was off.'"

42. The great and reckless destruction of human life in this occupation, and the attendant amount of human suffering and national loss, having thus been frequently brought before the public by independent and impartial inquirers, during the last 35 years, and the simple and inexpensive remedy in the use of the fan having been demonstrated by experience to be effectual, and acknowledged to be so by the persons most nearly concerned, the only question remaining for consideration is whether this is a case in which the Legislature would be justified in interposing its authority and requiring that to be done for the benefit of the public and of every individual in the trade, which individuals themselves are unable to effect. We have no hesitation in arriving at the conclusion that this is eminently such a case, and that in placing the metal trades of Sheffield under the Factory Acts Extension Act, a special power might with the greatest propriety be given to the inspectors of factories in reference to this particular object.

Use of the fan should be made compulsory.

Sanitary measures under the 4th section of Factories Acts Extension Act.

43. The Sanitary Measures already made obligatory in the occupiers of factories coming under the Factory Acts Extension Act, are by s. 4., as follows:

"Every factory to which this Act applies shall be kept in a healthy state, and be ventilated in such a manner as to render harmless so far as is practicable any gases, dust, or other impurities generated in the process of manufacture that may be injurious to health."

Proposed addition to that section.

44. The following addition to this requirement would meet this case.

(*a.*) Every factory in which dust is given off in the processes of grinding, cutting, glazing, or polishing any article of steel, iron, bone, ivory, or wood, or in the "razing" or "hacking" of the grindstones used in such processes, shall be provided with a fan or fans or other mechanical means by which the said dust shall be carried away in such a manner as shall, so far as is practicable, prevent its being injurious to any person working in such factory.

(*b.*) The occupier of any such factory may deduct from the wages of any person working in a room in which such fan or other mechanical means shall be provided any

sum not exceeding one penny per week as payment for the cost of providing such fan or other mechanical means, and of keeping such fan in movement when necessary.

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45. The word "injurious" is used in the above clause (*a.*) instead of the term "injurious to health" in clause 4 of the Factory Acts Extension Act, because in addition to the injury to health produced by the dust, small particles of hot steel are frequently given off with the dust in the process of grinding, which penetrate the workman's eyes, and cause great pain and inconvenience and even loss of sight (A. 94). The term "mechanical means" included also in the above clause (*a.*) would comprise such means as it might be practicable to adopt to prevent such causes of injury, as also the means of keeping the spray (with which even much dry dust is also included) from the workman during the process of wet-grinding (A. 55). And that the duty should be placed upon the occupier, and the power given him to indemnify himself for the cost of putting up the fan, and keeping it in movement when required, and of providing any other mechanical means which would tend to prevent injury to the workpeople, is plain from the facts mentioned in the evidence, namely, that it is beyond the power of the work people to adopt these measures effectually for themselves, inasmuch as it often happens that the desire of the most intelligent among them to protect themselves by these contrivances is frustrated by the unwillingness of others in the same room to adopt the same precautions (A. 43, 119).

46. Some occupiers of grinding factories already put up fans and "charge for them with the trough" (a. 59).

47. The state of the places of work in regard to ventilation and cleanliness, as described by Mr. White (A. 36–46), amply proves that the general provisions of the Sanitary Regulations of the Factory Acts Extension Act are as much needed in the case of the metal manufactures of Sheffield as we have shown them in our third Report to be in those of Birmingham and Wolverhampton. Although in the manufactories in the town, as distinguished from those of the country round Sheffield, it seems difficult to provide for effectual ventilation, owing to the confined space and defective arrangements of the buildings, the need is evident, in the interests of the health of the persons working in such confined spaces, that the occupiers should be called upon, in the words of the 4th Section of that Act, to keep every factory "in a cleanly state, and ventilate it in "such a manner as to render harmless, as far as practicable, any gases, dust, or other "impurities generated in the process of manufacture that may be injurious to health."

State of the places of work.

Sanitary Regulations of the Factory Acts Extension Act necessary.

48. It is to be observed that the endeavour to remove dust and render it harmless by ordinary ventilation, as defined in that section, is a distinct operation from those that have been adverted to above in ss. 26 to 44, having for their object the carrying away the dust or other injurious matter from before the mouths of the workpeople by mechanical contrivances directed to that especial purpose.

49. The necessity for the powers of the Factories Acts in regard to the fencing of exposed machinery is abundantly shown in the evidence relating to the Trades and Manufactures of Sheffield (A. 88, 89). And it appears requisite to extend those powers to meet a particular case of danger incident to the grinding occupations of Sheffield and other places where similar processes are carried on.

Fencing machinery.

50. The powers of the present Acts in regard to dangerous machinery and accidents are confined to three special subjects: to the "securely fencing" of machinery; to preventing any child, young person, or woman from "cleaning any mill-gearing while in "motion;" and the providing for "sufficient means for protecting persons under 18 and "women from being wetted, where the wet spinning of flax, hemp, jute, or tow is "carried on," . . . . "and where hot water is used for preventing the escape of steam "into the room."

51. In the processes of grinding in these trades, Mr. White states (A. 92).

"A source of danger peculiar to grinders arises from the flying of stones. An accident from this cause is likely to be most serious, though wonderful escapes happen. A stone flies either from some flaw in itself, or from the faulty way of fixing it on the axle, or from the too great speed of the machinery. Careful inspection and testing before use will do much to guard against risk from flaws in the stones; though it cannot in all cases ensure safety, as the flaw may be far inside and beyond the reach of testing. Fixing the stones on their axle by means of iron plates, which give strength to the centre of the stone, instead of on the old plan, which is still often practised, of using wooden wedges, which are liable to swell from moisture or from the heating of the iron, is admitted to be a great security, and there is no reason why it should not be universally adopted, at least for large stones, in which the danger is greatest. One man has had 10 stones break, besides several narrow escapes from stones near (a. 47).

52. It would appear that there could be no objection to adding to the existing provisions, stated above in s. 50, one which should provide against this particular source of

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danger by requiring that the grindstones used in these branches of manufacture 'shall be 'fixed on their axles by means of iron plates.'

Strong case for extending the protection of the Factory Acts to the young in these branches of manufacture at Sheffield.

53. Mr. White's report generally, and those divisions of it in particular which relate to the "ages at which children and young persons are employed (A. p. 2. I.), to the "hours of work" (A. p. 5. VII.), to "night work" (A. p. 7. VIII.), to the "influence of the employment on their physical "condition" (A. p. 9. XIV.), make it abundantly plain that the protection of those clauses of the Factory Acts which deal with the hours of labour and education are eminently required in relation to the trades and manufactures of Sheffield.

Ages at which children and young persons are employed.

54. Children begin to work in these employments at about 9 or 10 years of age, and "from this age upwards they are employed whenever light work, and in some case work "which is not light, can be found for them" (A. 21).

"It is common for children to enter upon one of the deadliest occupations known, viz., fork grinding, as young as 9; most begin at or before the age of 10; some as young as 8 or 7" (A. 22). Mr. White adds that "he found a child of six years old at a wheel where he had worked for some months at other dry grinding for his father." (*Ibid.*)

55. Even in the large iron and steel works, where systematic night-work is carried on, Mr. White found a few instances of boys of very tender age. In one there were two boys who came there, one at 7 the other at 8 years of age, another a boy of 8, in another a boy of 7 (A. 23), the night-work alternating by weeks, with day-work, in periods of 12 hours each (A. 22). But the common age for beginning in such works is from 10 to 12 (A. 22).

56. The employment in which most of the young children are found is cutlery. "Girls "as well as boys sometimes begin this at 7 and even 6 years old," and one boy whom Mr. White found at work had begun at 5. A woman who began cutlery herself at 6 years old, "put her own lass, now dead, on at three weeks turned 6." "In most cases," says Mr. White, "the youngest children are employed by their own parents or relations; "often in consequence of the intemperate or improvident habits of their parents" (A. 25).

Hours of work.

57. The hours of work where steam power is supplied do not appear to be often excessive. Where water power is used, time lost for want of water is apt to be made up by long hours when water is abundant. "One boy, a fork grinder, works "many times 15 hours a day." But when the work is independent of steam power, as is still the case to a considerable extent (A. 11), factories are open 14, 15, and even 16 hours a day (A. 66), and in such cases, in the employments especially of iron and brass founding, cutlery, metal rolling, &c., children and young people are kept late to help the adults (A. 67). Of the amount of this overwork in different occupations Mr. White proceeds to give a summary collected from the evidence that came before him, and forcibly indeed does it "show the existence of an amount of "overwork of young boys which is truly fearful" (A. 76).

58. It is impossible for any mind to realize the amount of work described in the following passages as being performed by boys of from 9 to 12 years of age, in, generally speaking, a very high temperature, often in very close and ill-ventilated rooms, inhaling in a large proportion of instances the deadly dust thrown off by the processes of grinding, and in operations connected with it, without coming irresistibly to the conclusion that such abuses of the power of parents and of employers can no longer be allowed to exist. Mr. White states (A. 73–75):—

An indirect evil of night relays to boys.

"The practice of boys working at all by day and night turns, either in the usual course of things or at pressing times, seems inevitably to open the door to their not unfrequently working unduly long hours. These hours are indeed, in *some cases, not only cruelly but even incredibly long for children.* Amongst a number of boys it will of course not unfrequently happen that one or more are from some cause absent. When this happens their place is made up by one or more boys, who work in the other turn. That this is a well understood system, is plain, not only from the statements of boys themselves, nearly all of whom, if questioned on the point, state that they have done so, but perhaps still more clearly from the answer of the manager of some large rolling mills, who, when I asked him how the place of boys absent from their turn was made up, answered 'I dare say, sir, you know that as well as I do,' and admitted the fact."

Excessive overwork for boys.

"But not only in this way, but also in places in which night-work is not part of the system, an excessive amount of overtime is not unfrequently thrown upon young boys, *e.g.*, a quarter of a day, a half, or even a whole period of 12 hours in the 24. This is especially the case in steel and iron rolling of the lighter kinds, *e.g.*, for crinoline and wire."

Instances.

"*A boy* 9 *years old, or at most* 10, worked at crinoline steel rolling *three nights running as well as the days, and this under his own father.* 'We should have gone so (*i.e.*, nights as well days) to the end of 'the week, only the engine broke down.' (a. 79.) His case and the appeals which he repeatedly made to me whether he might not 'go to school a bit longer, instead of working, struck me as pecu- 'liarly painful."

"Another, *now* 11, who went at 9 years old to hardening and tempering crinoline steel, worked there *from* 7 *a.m. till* 9½ *p.m. four nights a week* 'for many and many a month,' '*many a time till* 12 '*at night*,' and either once or twice worked *from* 7 *in the morning all through the next night and day*, '*and on till* 12 *the following night*.' I had to live very badly, and if I had no dinner, he (the man) always gave me a bit. (a. 149.)"

"Another boy at a rolling mill, where his proper hours were from 6 a.m. to 5½ p.m., worked about 4 *nights every week till* 8½ *p.m.* at least, and this for six months out of the nine that he was there, there being day and night relays in the remaining three months, and for about *four months he worked one day and night together* every week, and sometimes two days and two nights running. (a. 101.)"

"Another, *at* 9 *years old*, sometimes made *three twelve-hour shifts running*, and *when* 10 has made *two days and two nights running*. (a. 143.)"

"Another, now 13, at a former place *worked all night some Fridays* and other nights except Mondays always till 8 or 9 p.m. (a. 85.)"

"Another, *now* 10, at a former place worked *from* 6 *a.m. till* 12 *p.m. three nights*, and till 9 *p.m. the other nights*, in his only week there. (a. 220.)"

"Another, now 14, has worked sometimes from 6 a.m. on Friday till 2 p.m. on Saturday. (a. 110.)"

"Another, now 13, at a former place worked from 6 *p.m. till* 12 *noon next day for a week together*, and *sometimes for three shifts together*, *e.g.*, *from Monday morning till Tuesday night*. (a. 111.)"

"Another, now 12, has worked in an iron foundry at Stavely from 6 a.m. till 12 p.m. for a fortnight on end; could not do it any more. (a. 169), &c."

59. To these may be added the following instances of excessive over-work in the case of young boys, the first instance being, it is to be hoped, an exceptional case as regards showing what a father may be capable of (a. 115, 116).

"George Allinsworth, *age* 9. Came here as cellar-boy last Friday. Next morning we had to *begin at* 3, so I stopped here all night. *Live five miles* off. Slept on the floor of the furnace over-head, with an apron under me and a bit of a jacket over me. The two other days I have been here at 6 a.m. Aye! it *is* hot in here."

"*Before I came here I was nearly a year at the same work at some works in the country*,—a very large place. *Began there, too, at* 3 *on Saturday mornings*—always did, but was very gain home, and could sleep at home. Other days I began at 6 in the morning, and gi'en over *at* 6 *or* 7 in the evening, but it depends. Saturday afternoon I give over at 2 or 3. Go up into the furnace and carry away the waste after they have done teeming."

John Allinsworth, father of last boy.

"Work in the furnace. Last Saturday morning we began work at 2. We had slept in the furnace, being strangers to the town. We live at Wadsley, 4 *or* 5 *miles* off. We have to be here by 6 a.m. It is a long way for the boy to come and go back each day, though I can manage it. I should like to get some place in the town for him to stay in."

60. Also as to the bad effects of using heavy hammers at a very early age (a. 121.), and the following, (a. 128.):

"There is a good deal of heavy work. I have seen a boy of 14 years old using a 22 lb. hammer in file-forging, and some who have grown completely out of form from the work."

61. Women also are found to work at night (a. 187, 188, 189, 193). A woman who worked in a shop remarked "We have worked hard all night "many a night" (a. 130).

62. Upon the amount of overwork above described, Mr. White appropriately remarks that—"No wonder that boys sometimes fall asleep at their work, stumble, fall when the metal flooring gets 'hot and slippy,' and work is pressing, get burned or pierced with red-hot iron or steel, or otherwise suffer for their supposed negligence."

63. Other incidents of night-work pressing hard upon the boys are described in the following paragraphs (A. 80, 81).

"It may happen that a boy is kept always on the night shift, instead of working in the day shift, as others do."

"The night-work presses hardest on the boys on Monday. Having been to bed on Sunday night, they, cannot lie in bed on Monday, so I am up for 24 hours running.' It is very seldom as ever I do go to bed on Monday then" (a. 167). It also seems but natural, as a steel manufacturer who employs boys in night-work states, that boys who work at night at all "cannot sleep and get proper rest by day, but will be running about" (a. 109). On the other hand the night relays get the advantage of only working five shifts a week" (a. 167).

Overtime not profitable to the employer.

64. We have given in our previous reports the statement of several experienced manufacturers to the effect that over-hours are not, in the long run, profitable to the employer, while they certainly tend prematurely to exhaust the working power of the men, and also morally injurious both to old and young (1st Report, ss. 169, 376–386, 580–584; 2nd Report, s. 369; 3rd Report, ss. 64, 205). The following statement upon this subject by Mr. Guest (a. 247) is very worthy of consideration.

"Our day is from 6 a.m. till 6 p.m., with an hour and a half for meals. On Saturday all leave at 1 p.m. We were the first in this neighbourhood to introduce the short day on Saturday, about 18 years ago. The time so given is, I believe, spent rationally and well, *e.g.*, by many men in their gardens. The amount of work done in the week, instead of being diminished by the loss of time, is, I believe, increased by the rest which is given; at any rate, the best proof of the half-holiday answering is that nearly all the other large works in the town have adopted it.

"We should have no objection to a law limiting the work of children and young persons to our present hours. If more work were needed in a given time we should simply increase the number of our hands; our premises are large and roomy, and would easily admit of our doing so.

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"The question of confining children to half-time scarcely concerns us practically. For so small a number it might not be worth while for us to make arrangements for half-time at all; but we should not look at this merely as it affects ourselves. We consider that, as employers, we have duties as well as interests, and what the children ought to have we should wish to give them; we should be glad to do anything for their good.

"We insist on the hands coming punctually to work, and on Mondays just as much as on other days, and we also require sobriety and steadiness. We find that when a good system is once started it works easily and well. Our men are a sober, intelligent set, and such as take a lead in clubs, &c. In 20 years we have scarcely had a case of a man of ours being taken up for drunkenness."

"It is possible, however, that other employers in our branch of business might feel difficulties which we should not from any legislative restrictions on labour. While we employ only a dozen or fifteen children, other manufacturers, making just the same description of work, would probably employ a much larger proportion, perhaps four times the number. A want of room or other causes might be an obstacle to putting on extra hands when needed.

"Though we occasionally make over-time we have never real night-work, and I should be very unwilling to have it. Where it prevails, as in some manufactures it does, and no doubt necessarily, its moral effect on the boys engaged in it is very disastrous. In any work in which young children can be employed, the wages which they can earn, however small, are sufficient to make too many parents take them from school much too soon."

66. The evidence also of Messrs. Harrison and Deakin (a. 201), and of Mr. H. Wilkinson (a. 223), is very instructive upon the same points.

Boys should not be allowed to begin as grinders until the age of 11.

67. To whatever extent measures of precaution may be adopted, by means of fans or other mechanical contrivances, and by the improved ventilation and cleanliness of the places of work, to diminish the causes of premature decay and death among those employed in the occupation of grinders, there will still remain the injurious result produced upon the growth of the young, and their bodily health, by the confined position and disadvantageous posture in which the work of a grinder is performed. In all cases the position of the grinder is that of "a greater or less degree of stooping "over different kinds of work" (A. 47).

"In most of the work he sits astride on a broad flat-topped horsing, too broad for young boys. One of the average kind which I measured was 14 inches wide. The body is sometimes thrown forward almost horizontally, but more often curved forward with the head down, and most so where the stone or wheel is small, the work to which the youngest boys are first set." (A. 48).

68. The result is that the growth of many of these grinders "appears stunted, and "their bodies weakly," and in some cases "the body becomes misshapen" (A. 106). "For these reasons many consider that a boy should not be allowed to begin grinding "till the age of 12 or 14." (A. 104).

69. Upon this Mr. White gives his opinion as follows:—

"Allowing for the objection which may occur to some, that this opinion may be in some degree influenced by the wish common in many trades to keep up wages by preventing too great a supply of labour, I believe that the conviction that the work is unsuitable for young boys is sincere. It is expressed by most respectable men, and these as a rule do not take their own or other people's children to work for them under the age of 12 or 13." (A. 104.)

70. Parliament has already sanctioned by s. 6. (5) of the Factory Acts Extension Act the excluding of boys from the work of fustian cutting until the age of 11, upon the precisely similar ground of the injury permanently caused to the growth and bodily health by the position of the fustian cutter.

71. We are of opinion that the same age of 11 may with propriety be adopted in the case of the grinders. The medical opinions referred to by us in the case of the fustian cutters showed that by that age the bones of the human frame were sufficiently consolidated to render distortion from work in an awkward position less probable; and it may reasonably be anticipated that the precautionary measures which may be sanctioned by Parliament, with a view to the removal of dust and the amelioration of the general sanitary conditions of the places of work in the case of the grinders, will contribute, with the age above designated as the one for beginning to work at that occupation, to make it a far less injurious employment both to young and old.

Need for the education clauses of the Factory Acts at Sheffield.

72. Although the moral condition of the young at Sheffield, and the means of education at their command, are described by Mr. White as having improved since the inquiry of Mr. Jelinger Symons in 1841, yet the facts which abound throughout the evidence recorded by Mr. White, show painfully the very great need still existing for extending to the children under 13 at work in the various trades and manufactures of Sheffield, the benevolent and useful provisions for education embodied in the Factory Acts.

73. Mr. White states (A. 109.) that although he made less full inquiry into the state of education than he had done elsewhere, and especially at Birmingham, as exhibited in our Third Report, it was sufficient to show it to be very defective:—

"The proportion who have not ever attended day schools, or done so to any apparent profit, is decidedly large, considering the comparative smallness of the demand for young children's work; and there appears also to be great neglect of attendance at Sunday schools and places of religious

worship." * * * "Numbers of boys, some of considerable age, are unable to read or do more than tell the letters, if that; and in most cases where I made inquiry on such points, I found ignorance of simple facts of religion or secular life as great as I have found elsewhere. Some table-knife hafters compute that probably a third of the adults in that trade cannot read or write. In a manufacturing country parish, out of about 1,000 persons who signed a petition a few years ago for the Sunday closing of beer houses, about 700, including a schoolmistress, made their mark." (A. 111.)

74. The following are some of the many instances given in the evidence which betray the same lamentable amount of ignorance which Mr. White brought to notice as existing at Birmingham among children of the same age engaged in similar branches of manufacture, and which is well calculated to excite pain and surprise of no ordinary kind :—

Henry Stow, aged 14. (a. 82.)

"Went to work at shears at a cutlery manufactory when going 7 years old.

"Can read a bit, but not write at all. Don't know of London, or Queen Victoria, or if she is a woman or takes care of the country."

John Holmes, age 13. (a. 85.)

"Know most of my letters. Had to go to day-school till father began to be bad, and go always on Sunday and to church. There is no night school about our house now, but there is at winter when its frosty, and there's snow on the ground, and I go then and pay 6*d.* a week. (Is asked of Queen Victoria.) Have heard the name on it; can't tell what it means. She finds 'em money. The Bible is the Holy Bible. Have not heard of the Testament, Gospel, Adam, or Jesus Christ. An angel is an image."

John Morris, age 14. (a. 96.)

"Get 8*s.* 6*d.* a week, and have 6*d.* of it for myself. For nearly a year have put 4*d.* out of this into the bank. Generally do shiver like this when I've been hot."

"Do not go to school on Sunday or at night; have no good clothes to go in. Father makes 18*s.* a week, one of my brothers 10*s.*, and I have three sisters at work. Three of us are at home too little to work. Go to a church. (Qy. what church?) some say its protestant, some catholic. Parson preaches out of a pulpit and reads out of a bible, but I can't get nigh enough to understand the words. Have heard say that God made the world, and that all the people were drownded but one; heard say that one was a little bird. Suppose that Christ was a man. He was a father and teached em to read out of a Bible. Think he was put to a cross."

William Smith, age 15, moulder. (a, 97.)

"Never was at day-school in my life, except for a week or two, and do not ever go at night, but do on Sunday, and to chapel. My cousin teaches me reading a little. Heard at chapel about Samuel fighting with a lot of soldiers. Have not heard of Paradise. The garden of Eden is where men goes and eats off a tree. It was not any particular man. Do not know if Adam and Eve were the first people in the world. God made man; man made woman."

Edward Taylor, age 15. (a, 101.)

"Go to school on Sunday and three nights a week, for which I pay 1½*d.* Can read, write, and do sums, *e.g.*, reduction. Do not know what 10 times 12, or 3 times 7 is. Have almost forgot 'em all. Do not know of London; never learned any maps."

Jeremiah Haynes, age 12. (a, 143.)

"Cannot read. Ran away from school to get work, but would rather go to school now to get to learn to read. Cannot tell "reading" letters such as those (*i.e.* my writing, J. E. W.), but can tell those in a book. Go to school always on Sundays. Have not heard of Abraham or the Gospel. The Bible tells us what to do and sich. There are somewhere about 30 pennies in a half-crown; am not sure; think about 32. Four times four is 8; 4 fours are 16. A King is him that has all the money and gold. We have a King (told it is a Queen), they call her the Princess Alexandra. (Told that she married the Queen's son.) The Queen's son is the Princess Alexandra. A Princess is a man."

Wm. Turner, age 12. (a, 194.)

"Don't know anything about the Queen or England. Don't live in England. Think it *is* a country, but didn't know before. There are six days in a week. There is another day; altogether it makes (*after a long pause*) seven days."

Henry Matthewman, age 17. (a, 207.

"Can tell the letters but not read. Was at day school from as long as I can remember, till 12 years old, when I came here. Missed going sometimes, but have gone several days and a month, and never miss. Have been to a Sunday school once or twice since, not more. Have been to chapel, but have missed a good many times lately. One name that they preached about was Jesus Christ, but I cannot say any others, and I cannot tell anything about Him. He was not killed but died like other people. He was not the same as other people in some ways, because he was religious in some ways, and others isn't. He was alive again, but I cannot say if he is now. He was on a cross, but that is not how he was killed."

75. A very serious consequence of the defective state of education in Sheffield is showing itself in the contracted views of large numbers of the work people in regard to the introduction of machinery. Files in the Sheffield district are still made by hand labour only. Machinery has lately been adopted for that purpose near Manchester. (A. 12. See also our third report, App., p. 177, s. 128.) In France "excellent-looking "files are produced in that way," and the French are selling large quantities of files "to Sheffield customers on the continent, almost "equal in appearance" to those of Sheffield, and at little more than half the price. It is anticipated that the gradual improvement in skill and knowledge in the French workmen will enable them to bring

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their work up to an equality with that of Sheffield; and "it is obvious" that the interests of the English trade "must in the end suffer if the work can be done, as it "can, at a much lower cost in other countries by the use of machinery" (a 126). "The same difficulty prevents the introduction of machinery in other branches of our "trade. The Americans have machinery for saw grinding which produces beautiful "work at a third of the cost here; and one of us has been in a manufactory "there where this was done" (ibid).

Factory Act should be introduced gradually in regard to youths between 14 and 18.

76. In determining whether the limitation of the hours of work for the young, in accordance with the regulations of the Factory Acts, can, with propriety, be applied to the metal manufacturers of Sheffield, the only question on which much difference of opinion is expressed by employers relates to the age up to which youths should be excluded from working at night, in cases where night work by relays is practised.

77. This, Mr. White states, is practised in some branches of iron and steel work which employ boys as part of the regular system. In other steel works, where the work is of precisely the same kind, it is practiced only when trade is good; "thus showing "conclusively that, in several branches at least, the "night-work of boys which prevails "is not essential." (A. 78. See also a. 106.)

78. The following are illustrations of the opinions prevailing among the employers on this subject.

79. Messrs. Naylor and Vickers, steel manufacturers, who employ between 600 and 700 persons, among whom only 10 per cent. are under 18, and of those only 20 boys under 18 work in the night sets, thus express themselves (a. 84.):—

"We prefer not to employ lads under 14, but to oblige our workmen we sometimes take them younger, though not younger than 11. *Only* 10 *per cent.* or so of all the persons employed, who are all men or boys, are *under the age of* 18. The boys work chiefly in the rolling mills at the back of the rollers, others at the forges, carrying away bars, and others, about 15, including five of the youngest, in the cellars of the melting furnaces. Their work is to watch when the pots run, which is the way in which boys are employed generally in the town in steel smelting. They do not suffer from the heat. The temperature is probably from 86° to 90°. The remainder are engaged in moulding, pot work, lathes, and turning, or in the warehouse as errand boys, &c., and two or three at joiners' and masons' work. *At the forges and in the rolling mills the hands work day and night in relays*, but all the other parts of the work are day work, *i.e.*, from 6 a.m. to 6 p.m. In the forge the hours are from 12 till 12. *Some of the hands always work in the night without any alternation of day and night work.* These arrangements of ours are made by the men according to their own choice. We do not find any difference in the health or work of those who work regularly by night and those who work by day, and probably people can sleep better if they have the same period of rest than if it is changed. The melters have to do three rounds of melting in a day. If it takes more than the regular time, they have to stay to finish, but they often get away in less than the 12 hours. We do not like the men to be actually engaged in work in any branch for more than 10 hours. It is not so good for them, and not economical to the employers. *About* 20 *of the boys under the age of* 18 *work in the night sets.* About a dozen of the boys are in the employment of the men, not of us; but it is understood that they are equally under our control, and it is the duty of the foreman to look after them. We could not *well do* without lads under 18 working by night. The objection would be the increase in the cost of production; but if the age were fixed *a year or two lower*, there would probably be no difficulty. It could be arranged by merely putting the younger into day sets. Skilled hands, and the heads in very department, are difficult to get, but of lads we could get any number. Boys under 13 get perhaps from 5*s.* to 6*s.* a week, and from 14 to 16 perhaps 7*s.*, though in work at which boys are apprenticed they get rather more. A smartish lad of 18 or 20 at the rollers will get 3*s.* a day. It is after the age of 16 that a limitation of boys' work would begin to make a difficulty as to wages. We pay one price to all below that age, according to their work, without regard to age. But from the small proportion of boys that we employ, the subject (*i.e.*, of restrictions on night work), is *of little importance* or interest to us."

80. Mr. J. Ellis, one of the firm of Messrs. John Brown & Co., steel and iron works, employing about 3,000 men and boys, part of whose operations, namely, "iron and "heavier steel work goes on night and day by relays," states that "in the heavier steel "work one or two boys are employed to a score or two men." They have "upwards "of 500 boys in their employment under the age of 18, and of these about 170, or one-"third, are under the age of 13" (a. 91). Mr. Ellis's opinion as to the exclusion of boys under 18 from working in the night relays is as follows (ibid.):—

"I do not think that it would be very objectionable to require that no person under the age of 18 should under any circumstances work more than 12 hours in the 24. But we do not think that any line could be drawn over the age of 12 at which boys could be dispensed with for night work. But we would sooner be prevented from employing boys under the age of 13, or even as high as 14, at all, than not be allowed to employ boys that we do have at night. Those boys who work in the day sets must take their turn in the night sets also, because men could not work in the night sets only; it would ruin their health. In summer, however, they might perhaps have the best of it, as the heat in the day then is very great. We insist on their changing their set week by week. We have sometimes made exceptions, letting men undertake the night turn of others who were being hurt by it, but we have always found these men giving way in health from the night-work without change. We think, however, that night-work in alternate weeks is no harm. We find the men who do it as

well as the others who do other work only by day. We like also, for convenience of the workers, to keep the same sets working together, as the food of a family can then be sent at the same time, and altogether it suits their home arrangements better.

"Our objections to not allowing boys under 18 to work at night would be on account of the increase of expense, but this is the only reason. We think that the increase would be more than the trade, having due regard to its being successfully carried out, could fairly bear. Labour is scarce here, and might fall short if there were such a regulation. Still this might settle itself in time by workers being attracted from other districts."

81. The system therefore which Mr. Ellis would prefer would be not to be allowed to employ any boy under 13 or even 14 at all, and then to be allowed to employ boys of that age in the night sets on alternate weeks.

82. The Cyclops Steel and Iron Works of the Messrs. Cammell & Co., "are on a "like large scale" with those of the Messrs. John Brown & Co., and employ "between "2,000 and 3,000 persons." The nature of the employment and the system of work are, Mr. White states, the same, and "a statement was made by the managing director "to much the same effect as that made on behalf of the Messrs. Brown & Co.," but cannot be inserted, as the manuscript sent to the manager for revision was not returned. Mr. White, however, mentions that in answering one of the questions of our tabular forms as to the prohibition of night-work for children and young persons (the answer being that it would be "impossible to do so, it would be tantamount to stopping our works,") the fact nevertheless appears from their return of the whole number of persons employed that "boys of all ages under 18 form little more than 6 per cent., and boys under 13 "less than 1 per cent., and of both these classes several would naturally be engaged in "day work only" (a. 98).

83. It may safely therefore be concluded that in the case of these works at least the limitation of hours for youths under 18 in accordance with the Factory Act would be of no material importance.

84. Mr. Joseph Peace, of the firm of Messrs. Joseph Peace & Co., steel and saw manufacturers, who "melt, tilt, and roll steel, and make saws, busks, for stiffening, and "other articles," states as follows (a. 109):—

"If boys under 18 could not work at night men must be employed instead, and we must charge more for that, so that things could not be sold to the consumer so cheap. That would be all. The manufacturers being all on the same footing by law would keep the prices up, much as at present the men keep their prices up with us by means of their union. The difference of price would not, I think, be sufficient to discourage the trade. Youths do not usually get full men's wages till about 21.

"Perhaps boys over 14 might be allowed to work at night, but not any younger. But on the whole I think that it must be injurious for any boys to be working at night. They cannot sleep and get proper rest by day, but will be running about. It has sometimes happened that the mill has stood, *i.e.*, been unable to work simply because boys belonging to one set have been away. If the want of workers is discovered in time it may happen that others are stopped out of the preceding set and persuaded to make the other up, but usually they are away too soon. It may happen sometimes that boys are thus kept without our knowledge."

85. On the same subject, on the other hand, Mr. E. F. Sanderson, of the firm of Messrs. Sanderson, Bros. & Co., Steel Rolling Mills and Forges, Attercliffe, states:—

"Great difficulty would be caused by preventing boys under 18 from working at night. The chief would be the increase of cost from employing men instead of boys. I cannot say what this would be, but probably it would not be enough to enable the manufacturers to raise the price of steel, and consequently it would fall on them, as of course the men would refuse to pay it. Only five of the boys here are under 13. The wages being paid by the men who work by the piece, I cannot say just what they are. Perhaps the younger boys get from 4*s.* to 5*s.* a week, and the elder rise from that up to 15*s.* or 16*s.* Probably youths of 18 could be got now for 17*s.* or 18*s.*; but if all the works in the town had to get youths of that age the available number probably would not be sufficient. The boys' work is of a kind for which the strength of boys is generally quite sufficient, and consequently there would be no gain in the greater strength of the men to counterbalance the loss, or it would be only in the few cases in which the metal is heavy. The men would not like so well not to have boys under them, as men would be less obedient. Besides boys must begin young to learn the trade. Leaving day-work alone open to boys would not answer this purpose, as owing to the men working days and nights in alternate weeks, the men would be separated half the time from their boys, and would thus lose half the profit which they make from them. The training which they give to an apprentice is considered as part of the return for the boy's labour, and thus enables the men to get it at a cheaper rate. Each man would want half of this profit. In addition to this it would throw regular night-work on those who worked instead of boys in the other turn, which they would not stand. The difficulties, in fact, would be so great that they would very likely lead to giving up night-work altogether. As far as the work itself is concerned this would suit as well, but then there would be the loss from so much expensive machinery lying idle half the time, and to get through the amount of work which we are able to do on the present system we should have to double our premises and plant, which would double the outlay. It is true that there is this loss from machinery lying idle in those manufactures in which work now only goes on by day. But the use of furnaces would involve a further loss in our case. If these were kept up there would be a waste of fuel, and if they were not there would be loss of time in laying the fires and getting the heat up, and the furnaces themselves would suffer from the changes of temperature. The larger the furnace the greater the loss.

METAL TRADES OF SHEFFIELD.

In the rolling-mills the furnaces are larger than in the forges, and are never let out even on Sunday, or if the works stand for some days. The smaller furnaces in the forges are let out on Sundays. The melting furnaces are also let out each night, but this is necessary to clear the bottoms, and the pots, if put fresh into a furnace already at full heat, would be liable to be spoiled. As it is, the furnaces do not get cool in the night, and the pots are gently warmed before putting them in the first time, each pot serving for the day of three rounds."

86. Mr. J. Taylor, assistant-manager of the Park Gate Iron Works, Rotherham, employing about 1,300 persons, gave the following opinion (a. 164):—

"A prohibition of night-work by boys would increase the cost of labour considerably in those departments in which they chiefly work, *e.g.*, rolling. I cannot say whether these items would be sufficient to raise the entire cost of the articles produced enough to injure the trade, if all works were under one law. It would not do to allow the younger boys to work by day, as this would throw constant night-work on others in the alternate shift, and this would not suit their health. I cannot say up to what age boys could be spared from the night-work, but I will put it thus, viz., that it would do boys of from 12 to 15 years of age less harm to work in the night-shift in alternate weeks, on the present plan, than it would do boys of from 15 to 17 to work always in the night-shift.

87. In estimating the injurious consequences of night-work upon the constitution of the young and upon their habits and morals, an element is pointed out by a writer on "health," which appears to deserve much weight, namely, the importance of light in maintaining the bodily frame in proper vigour. The following extract is given by Mr. White (a. 282):—

"Light also acts upon the tissues of the body directly in hardening them and supporting their elasticity. The muscles of animals, when they are deprived of a proper amount of light, become soft and inelastic, the nervous power loses its tone from defective stimulation, and the elaboration of all growth seems to be perverted." * * * "In the case of children, constant access to plenty of light through the day, and to the direct rays of the sun for a part of it, is most essential to health. Light assists in the elaboration of good plastic blood out of the food, and hardens the fibre after it has been laid down. It also acts as a stimulant upon the organs of sight, and by this means brings about more activity in the various celebral functions than would otherwise be the case." * *

"I have had opportunities formerly, when in Lancashire, of observing the effects of night-work upon factory children, and I have no hesitation in saying that, contrary to what some employers were fond of asserting, those children who were subjected to it soon suffered in their health, as I, then attached to a dispensary, had abundant evidence of it."

88. The evidence of manufacturers in Sheffield quoted above is manifestly much influenced by the particular circumstances of each as regards the number of children and youths whom he employs in the night relays. It has been seen that the per-centage of youths under 18 employed in this manner is, in some of the largest works, very small, while in others although the precise proportions are not given, it may be taken to be more considerable. In the latter cases, the disarrangement, (though it may safely be inferred that it would be but temporary,) and the additional cost of labour which would follow a prohibition to employ young persons under 18 in night work, or in other words, beyond factory hours, naturally indisposes them to contemplate the adoption of such hours.

89. Nevertheless considering that the per-centage of boys under 18 employed in night-shifts is not great; that being so employed at all, exposes them to the liability to work double shifts, or in the words of Mr. White, (supra § 58,) "in some cases cruelly if not "incredibly late hours," (see also the opinion of Mr. Joseph Peace, supra § 84); and considering that in a manufacture requiring the utmost physical strength, it is of public importance that the physical powers of the operatives should not be prematurely undermined, we are of opinion that the evidence on the whole justifies the adoption of factory hours in this case; and we think that if the age of 18, as the one below which no young person should be employed otherwise than according to the regulations of the Factory Act, were arrived at by progressive stages of a year each from the time of the passing of the Act, a great proportion of the presumed difficulty would be obviated. It might be enacted that for the first year boys of 14 might be employed as at present; this would exclude from night work very few of those who are now employed regularly in night relays. The boys therefore of 14 being thus available at once, the exclusion of all under 18 would be very gradual, and it might reasonably be anticipated that by the end of the four years a sufficient number of youths of 18 would have been brought up in each work to enable the night relays to be carried on without difficulty or material increase of expense.

And when the provisions of the Factory Acts have fairly taken effect at Sheffield, it may be fully anticipated that the same judgement of their utility and benefit both to employers and work-people will be formed, as is expressed in the following paragraph by the medical officer of Barnsley (a. 263):—

"I am very glad that government is taking up this inquiry. The factory legislation has contributed wonderfully to the good feeling and contentment of the working classes; all like it now. Even masters and others who opposed it approve of it, and the working classes speak of it as 'our grand charter.' In this neighbourhood we have the means of judging. The change of feeling in this town since it

was introduced, from one of political and social disquietude to one of order and contentment, is wonderful; no one not acquainted with the facts could conceive it.

METAL TRADES OF SHEFFIELD.

90. The Factory hours for meal times are required for and are applicable to all the branches of employment in the metal trades of Sheffield, as in the Birmingham and Wolverhampton districts, with the small exception named in s. 173 of our 3rd Report. In that section we recommend that the boys employed by the "puddlers" should be exempt from the factory hours for meal times, on the ground that their work is necessarily intermittent, and that they have several intervals of comparative rest during which they take their meals. The same principle applies to the iron works of Sheffield and elsewhere.

MANUFACTURE OF HAIR SEATING.

Meal times, factory hours for, should be adopted in all cases except that of puddlers in iron works.

"The 'heats' (metal) must come out when they are ready, or they would be spoiled; and the boys must be there to help. *Any fixed times for meals* would cause great hindrance and loss. The heats could not be so arranged as to allow of any regularity. The quality of the iron may make a difference as to the time of heating; the shape into which it is put, a difference in the time of working; and hindrances may arise. That stopping of the engine just now for 20 minutes, owing to something wrong with the pump, would very likely be the cause of spoiling some iron. The boys, however, get *frequent intervals* of 20 minutes or perhaps half an hour between the heats and take their meals in these. Such an interval is seldom more than half an hour."

The law would be carried into effect even in the small shops and houses.

91. We have expressed our belief (ss. 192–196 and s. 465 C. of our 2nd Report, and s. 175 of our 3rd Report,) that children employed in any of these branches of manufacture at their own homes require protection, and that any legislative declarations in their favour would be enforced by the public opinion around them; also that those employed in the smaller factories and workshops are capable of being reached by protective legislation. The following paragraph leads to the same conclusion in regard to the Sheffield district.

"It is true that it would be less easy to carry out a law of this kind in small shops than in factories, and in factories such as those in Sheffield, where nearly all the children are employed by the adults, than in factories such as those in Lancashire. But we think that it might be done, not only in the factories, but even in the small shops and homes, say by putting on a small fine, which was the way that we enforced our rule; we do not think that it would be thought more hard in a case of working at home than in a factory. There are plenty of people here who would let it be known if the law was being broken. But if it were impossible to carry out such a law effectually in the small places, we do not think that this would be felt as an injury to those who work in other places. In one of the largest and best cutlery factories, where there is a rule that the works shall close at an early hour, the men never grumble because others can work longer elsewhere" (a. 201).

92. The number of small factories in Sheffield is still very great. They are thus described by Messrs. Harrison and Deakin, table-knife hafters (a. 201):—

"The work is carried on partly in large factories, partly in small factories and shops. House or garret work has been decreasing for the last 20 years, and is now almost gone. Men find that it answers better to work in places where they can have the advantage of power. The proportion however of those employed in large factories and those employed outside varies with the state of trade, the tendency of bad trade being to discourage large masters from keeping work-people regularly employed on their premises. Perhaps at the present time about half work in small shops up and down the town. But in many cases some of those who work in factories are really out-workers, working on their own account or for other masters. We should call a place a factory where as many as ten or a dozen work."

Warehouse work should be placed under the Act.

93. In any legislation in reference to the metal manufacturers of Sheffield it will be necessary also to include the warehouse work connected with it. Of this Mr. White remarks (a. 113) that "some of the warehouse work here, as in many other warehouses, "is strictly manufacturing."

Mr. Harrison states (a. 215)—

"The only females in our employment are perhaps 20, who are engaged in rubbing and wrapping goods"

Mr. Hutton states (a. 219)—

"There are several females in the warehouse, some engaged in wrapping up things, but most in polishing with the hand and rouge. Numbers of females are engaged in Sheffield in like manner. In cutlery work part of their work consists of whetting the blade on hones."

94. Much overtime occasionally occurs in them.

"Overtime happens chiefly in the warehouse where females are employed in rubbing, wrapping up, &c. It is sometimes till 9½ p.m. there" (a. 214).

The manufacture of hair seating should be placed under the Act.

95. The manufacture of hair seating, carried on at Sheffield in a factory employing above 300 persons, of whom all but eight are females, should be placed under the regulations of the Factory Act. The number of children employed at the time of Mr. White's visit was 25. The evidence (a. 268–271) shows a great deficiency of education among them. The proprietors of the factory, Messrs. Laycock, had established a school, but "it was given up owing to the difficulty of securing attendance" (a. 266). The hours of work, although not exceeding in number the factory hours, are nevertheless later, extending to 8 and 8½ p.m., which is in many obvious ways disadvantageous to young girls; and the meal hours are not always regular (a. 270).

NAIL AND NEEDLE MAKING.

FOUNDRIES, &c., IN WEST RIDING.

Nail making and needle making, &c. at Bromsgrove, Redditch, and Alcester.

96. The nail and needle manufacture carried on within the registration districts of Bromsgrove and Alcester was described by Dr. Greenhow, in his Report to the Medical Officer of the Privy Council (3rd Report, 1860). It is carried on in cottages, and also in small shops, the latter having usually four or five "stalls." Many women and children are employed, the latter generally beginning to work at nine or ten years of age. These frequently work very long and irregular hours, in consequence of the habit of the men to idle away the early part of the week. The use of the fan has been found very beneficial where introduced, in diminishing the destructive effect of the dust given off in the processes of pointing, polishing, and filing (p. 117), although much fine dust still escapes and is inhaled. Badly ventilated workrooms are also common. The regulation of the hours of labour, and supervision under the Factory Acts Extension Act, would lead to improvements in these respects, in the shops, that could not fail to be beneficial. The purely domestic work falls within the recommendations of s. 175 of our 3rd Report.

FOUNDRIES, MACHINE SHOPS, &c., IN LEEDS AND OTHER TOWNS IN THE WEST RIDING OF YORKSHIRE.

Arrangement of subjects.

97. Mr. Longe in his inquiries relative to the metal manufactures of South Staffordshire and other parts of the kingdom (Third Report, pp. i.–ix., pp. xxv.–xxvi.), arranged the subjects in the following order:—

1. Blast furnaces.
2. Rolling mills and forges.
3. Miscellaneous metal trades; among the most prominent of which latter are foundries.

98. In this Report Mr. Longe adds a brief account of the foundries in the West Riding of Yorkshire. Also an account of the machine shops in the same district; a subject dealt with more largely by Mr. Lord in his Report on the miscellaneous manufactures of Lancashire (Third Report, p. xxvi.)

99. In these foundries the following manufactures are carried on:—

(1.) Steam engines, locomotive and stationary, railway carriage wheels, &c.
(2.) Self-acting machinery employed in the metal manufactures.
(3.) Machinery used in the worsted, woollen, flax, and other spinning and weaving trades.

Age of boys employed.

100. In the two first of these branches of employment boys are seldom taken to work before the age of 13, but in the latter a great number of boys between 10 and 14 are employed, and the general age at which they begin work is between 11 and 12 (B. 4, 5.)

Work not unhealthy.

Overwork common and often excessive.

101. The employments themselves are simple, both for boys and youths (B. 6–8), but the "prevalent evil" is the system of overwork which is common in every manufac- "tory" (B. 9); and the amount of this overwork for the young is often excessive. It is only in a few manufactories that the hours said to be the "regular hours," and which nearly correspond with the factory hours, represent the actual hours of work.

"One boy of 16 years of age worked from 6 a.m. to 10 p.m. for about five months together (b. 5). Another boy of 16 years of age had worked at filing, generally from 6 to 7, sometimes three days running to 11 p.m. (b. 8.) In one of the largest works all the boys had been working to 8 for the last five weeks previous to my visit (b. 12–14. *See also* b. 16, 18, 28, 31, 32.) It is by no means uncommon for the elder boys to work through one, if not two, nights in the week (b. 17). One case was mentioned to me of a lad having worked from Monday morning to 5.30 p.m. on Tuesday; on Wednesday from 6 a.m. to 5.30 p.m., and then from Thursday morning to 5.30 p.m. on Friday (b. 22).

102. It appears that the habit of working overtime is by no means necessary as regards the young (B. 11.) In the exceptional case of the repair of locomotive machinery, youths above 18 might be substituted by the manufacturers for those below that age in the particular branch of labour in which overtime may be temporarily required. And the tendency of opinion among the principal employers is evidently favourable to the "preventing overtime for children and young persons" * * "as it is now "prevented in the factories" (B. 12.)

Youths under 18 should be placed under factory hours.

103. The question as to the propriety of placing youths up to the age of 18 under the restriction of the Factory Act in regard to the hours of work is raised by Mr. Kitson, of the firm of Messrs. Kitson and Co., Locomotive Works, Hunslet, who states (b. 6), that he "took a leading part in favour of the Factories Acts 30 years ago." In his own works it appears that he is "strongly opposed to overtime," but that "the trade requires "that he should have recourse to it occasionally." He then states his objection to that clause of the Factory Act which prevents youths up to the age of 18 from working overtime.

"There is no work at which younger children could be properly employed. The only question, therefore, affecting my trade would be the limitation of the hours of work for young persons under

18 years of age. I am of opinion that such a limitation, although it would undoubtedly be very advantageous for the youths, would have the effect of interfering with the freedom of the adult workmen, with whom they work as assistants, and it might cripple us materially in getting our work done. I am strongly opposed to systematic overtime, but I do decidedly consider that trade requires that we should be able to have recourse to overtime occasionally. Such a restriction on the working hours of youths between 16 and 18 would also have the effect of keeping them back in their education as artisans. There is much work to which older boys are put which they could not be put to if they could not work after 6 o'clock, so that they could not learn this high-class work until they were 18 years of age. Suppose the age was 16, and not 18, this objection would not apply so strongly."

Iron Ship-building.

Letter Foundries in London.

Copper Works of South Wales.

104. Even if Mr. Kitson's opinion is correct,—that overtime in which youths under 18 are employed is necessary "occasionally,"—it may reasonably be expected that on those occasions persons above 18 may be substituted for those below that age without any serious inconvenience or disadvantage to the employer or to the adult workmen. Mr. Kitson admits that the limitation of the hours of work for young persons under 18, according to factory hours, would "undoubtedly be very advantageous for the youths." What is so cannot fail ultimately to be to the advantage of employers. But Mr. C. W. Wardle, an employer in the same branch, also at Hunslet, states (b. 1), that he thinks "a law preventing the employment after 6 o'clock of all youths under 18 might be "carried out in his works. "I do not think we should suffer. It would be a good thing "for the lads."

105. The other miscellaneous metal trades carried on in Leeds are of the same character as those described by Mr. Longe in the Wolverhampton district (3rd Report, p. 1). The conditions of labour are the same, and justify in the same degree the intervention of the Factory Acts in favour of the young and of females. Much dangerous machinery also requires to be guarded, according to the regulations of those Acts (B. 20).

Iron Ship-building Yards and Engineers' Works.

106. In iron ship-building, each set of "riveters" has two boys to head the rivets for them. Many of these boys are as young as 9, but they are generally between 10 and 14 years of age. Mr. Longe, who visited several ship-building yards in the Clyde, near Glasgow, at Stockton, and on the Thames near Greenwich, found that riveters' assistants were employed in great numbers; that they are "often uneducated and badly cared "for" and that although what are called the "regular" hours of work are from 6 a.m. to 6 p.m. "The practice of working overtime for weeks and months together is very "prevalent" (C. 5).

107. This case therefore comes within the same category as that of the iron foundries, and requires the same species of legislation for the protection of the young.

Letter Foundries in London.

108. About 200 boys are employed in the three large letter or type foundries in London; the majority of them being between the ages of 10 and 13. There are two other large manufactories of the same kind in the kingdom, and a few other small ones in London. The hours appear to be pretty regular, but the Saturday half-holiday is in all cases stated to be compensated for by working two nights in the week till 8 o'clock (d. 1). Another witness states that he sometimes worked to 9 or 10 at night (d. 9). Another states that he does not leave work on Saturday until 6, the usual hours being from 8½ a.m. to 8 p.m. The prevailing hours are from 7 a.m. to 7 p.m., with two hours for meals, and from 8.30 a.m. to 8 p.m., with one hour and a half for meals. The shops in which the boys are employed are described by Mr. Longe as, generally speaking, large and well ventilated (D. 5). The conditions of juvenile labour therefore in this case are not unfavourable. But as the hours are not so beneficial to the young as the factory hours, and as the evidence shows that many of the boys found at work, although they had been at school for various periods, had not been so with sufficient regularity or for a sufficient time to enable them to profit much by such instruction as they had received, it appears desirable to place this branch of manufacture also under the Factory Acts Extension Act.

The same legislation required as for foundries, &c.

Should be placed under Factories Acts Extension Act.

The Copper Works in South Wales.

109. The copper works of South Wales consist of—

I. Rolling mills, in which copper is rolled into sheets and rods.

II. Copper smelting works.

I. The rolling mills are very similar to those in the iron trade. A large portion of the hands employed are youths and boys of 12 years of age and upwards (E. 1–3).

Rolling mills similar to those of iron works.

HAND-LOOM CARPET.

HEALD KNITTING.

Day and night shifts.

Young boys employed.

Hours in warehouses irregular.

Same regulations required as in iron works.

110. The work is for the most part carried on in day and night shifts, "as in the iron "trade." * * "In one or two cases" Mr. Longe "found one set only employed, their "hours of work being from 6 a.m. to 9 p.m. One boy out of 12 had worked for four "days together from 6 a.m. to 9 p.m. Another boy of 14 years of age had worked to "12 o'clock every other day previous to Mr. Longe's visit, and was working the same "hours that week (E. 4). The hours in the warehouses connected with those works "were very irregular; one boy of 16 years of age had often worked through the night, "and sometimes two nights in the week" (E. *ibid.*)

111. These works require that the same principles of regulation should be applied to them which we have suggested in the case of the iron works.

II. It appears that in the smelting department none but adults are employed (E. 1. e. 21).

THE HAND-LOOM CARPET TRADE IN THE NEIGHBOURHOOD OF DEWSBURY, YORKSHIRE.

112. Our report on various occupations in which hand-loom weaving is still carried on to a great extent (2nd Report, p. xliii., also App. E. s. 16) did not include the small manufacture of carpets by the hand-loom at Dewsbury, and a few other branches of manufacture in which the hand-loom is still employed, to which we now proceed to call attention.

Curtailment of meal hours.

Bad ventilation.

Factory Act applicable.

113. Mr. Longe states (F. 1) that there are now about 2,300 weavers in the trade, and that although children are employed at a very early age (from 8 to 13), the hours of work for them are not excessive (F. 4). They are employed at the very simple operation of "winding." The irregularity of the curtailment of the meal hours, and the bad state of ventilation and want of cleanliness of the workshops are the principal evils of the trade, affecting the young, which would be remedied by the application to this branch of employment of the Factory Acts Extension Act.

Blanket and coarse linen weaving in Barnsley and neighbourhood.

114. Mr. Longe states that the employment of weaving blankets and also some coarse kinds of linen by the hand-loom is being superseded so effectually by the power-loom, that evidences as to the condition of the few children employed would be superfluous.

HEALD KNITTING.

Circumstances similar to the fustian cutlers.

115. "A heald is an open knitted frame work, made of cotton, and fitted to looms to "raise the threads of the work in the process of weaving" (G. 1.) They are still often made by hand, "and under circumstances not unlike those of the fustian cutters" (G. 2). The localities of the manufacture are chiefly the villages of Mottram, near Ashton-under-Lyne, Stockport, Oldham, and Manchester.

116. Children begin to aid in the work at the early ages of 5, 6, and 7 (G. 4). In some places as many as 20 are collected together; in one place 90; "but the usual "number is seven or eight" (G. 6). Many of these little children "have worked 14 "hours a day as a regular thing."

117. "I used often to go to sleep at the work," said one of 13, who had worked from 6 years of age for 14 hours a day, so long as there was work to do; then the knitter "would hit me to wake me up" (g. 4). Another, who had, however, not begun until 10 years old, "had often and often to work from 6 a.m. to 8 and 9 p.m.," though the usual time was from 6 a.m. to 6 p.m. (g. 1). This took place in country districts, but even in Ashton and Stockport, where some are said to begin work at 6 or 7 years old, the ordinary hours are from 6 a.m. to 6.30 or 7 p.m.; and from the statement of Mr. Morris (g. 7) regarding the great pressure at certain times, it is quite clear that Mr. Coles is correct in asserting that in towns also, "in busy seasons, when they are pressed "to finish by a fixed time, great enormities are practised in the way of long hours" (g. 9), (G. 13).

The same legislation required.

118. In regard to deficiency and irregularity of meal times, and to the physical injury to these young children arising from beginning work so early, and from the position in which they work (G. 14, 15), there can be no doubt that the medical and other opinions quoted by Mr. Lord lead correctly to the conclusion that this is a case for the interposition of Parliament, to as great a degree as that of the fustian cutters, who are now protected by the Factory Acts Extension Act. Mr. R. W. Coles, sub-inspector of factories, gives it as his opinion that they require regulation *more* than the fustian cutters did (g. 9).

The Tobacco Manufacture.

The Tobacco Manufacture.

119. The tobacco manufacture is carried on in many large towns in the United Kingdom.

120. The numbers employed in England and Wales, according to the census of 1861, in the manufacture of tobacco, with which that of cigars and snuffs is often combined, were,— Numbers.

Males of all ages	3,968
Females	872
Total	4,840

Of these there may be estimated to be, according to the census, about 800 males and 200 females, total, 1,000, under the age of 18.

121. In Scotland there are, according to the estimate given by Mr. Longe (H. p. 80 § 1) and Mr. White (H., p. 85 § 14).

In Glasgow, boys under 18, about	700
Leith	200
The rest of Scotland	300
Total	1,200

122. The numbers in Ireland are, according to the census, about 1,000, of whom all but 84 are males.

123. Our evidence was collected in Glasgow, Edinburgh, Leith, Newcastle-on-Tyne, Leeds, Sheffield, Liverpool, Manchester, and London.

124. The processes and the conditions under which the manufacture is carried on being uniform, we believe that the evidence we have obtained sufficiently represents the state of the trade in other parts of the kingdom.

125. In the tobacco manufactures visited by our assistant commissioners, in which cigars and snuff were also made, there were found at work in England about 500 and in Scotland about 900, out of the estimated total of males under 18. In the places visited in England, about 300 females were also found at work, many being under 18.

126. The processes in which children are employed are,—1, spinning, *i.e.* making roll tobacco; 2, packing cut tobacco; 3, making "bunches", *i.e.*, preparing the tobacco leaves for the cigar makers. Nature of process.

127. In Glasgow the 700 boys said to be generally employed there, are engaged in the process of "spinning." They are taken from the poorest and most neglected class (H. 80 § 2, p. 84 § 2, p. 89 § 11). Girls are employed in the spinning shops of London, Leeds, Liverpool, and Manchester.

128. The children are employed very young, from 8 to 13 in Glasgow (H. p. 80 § 1) and Edinburgh (H. p. 84 § 12), the majority beginning work before 9 years of age at Liverpool and Manchester (H. p. 86 § 1). Those found at work in London were usually between 11 and 14 (H. p. 82 § 13, p. 83 § 33). Age.

129. In Scotland overtime is not common in this employment. In Glasgow it occurs occasionally up to 8 o'clock, "but only for two or three weeks in the year" (H. p. 80 § 3); but in some manufactures in Liverpool are not unfrequently exceeded by the space of two hours (H. p. 89 § 8); and Mr. Lord was told by one girl that "she had worked until 9 "for every night for three weeks, and the foreman stated that they usually worked on till 9 p.m. from August to December" (*ibid.*). At these works no tea time was allowed, and several of the girls told Mr. Lord that they were "very tired when 9 o'clock came." Also in some shops in London "boys had been kept to 10 p.m. for a whole week (H. 3). Overtime. Meal-times.

130. In Newcastle-on-Tyne there is occasional overtime "up to 11 p.m." (H. p. 87, §§ 25, 26). The meal times also are apt in every case to be curtailed and irregular. (H. p. 89 § 9).

131. Much attention is given by most of the large manufacturers in this employment to the state of their workshops, but it appears to be often otherwise, in the case chiefly but not invariably of the smaller places of work. Mr. Lord states that many of the small places of work visited by him were "dirty and unwholesome," and that even in shops where a hundred hands and more are frequently employed, there is in this respect need of much greater attention than has hitherto been bestowed on matters of ventilation and lighting, the gas jets being in many cases placed immediately in front of every two or three persons on a level with their heads, or raised but little above them." State of places of work.

132. Mr. Lord also refers to some very interesting evidence he obtained relating to "the "extreme importance of good ventilation in the work place, or at all events in those "where young women are employed in this business (H. p. 89 § 10).

Umbrella and Parasol Handles.

Moral condition.

133. The moral condition of the children employed in tobacco manufactures was described in the reports and evidence of the Children's Employment Commission of 1841 as very low. It would appear that although in some respects there is still evidence of a low moral sense (H. p. 90 § 12), on the whole there has been, especially in Glasgow and Edinburgh, and in Lancashire, a considerable improvement (H. p, 80 § 2, p. 84, § 12, p. 89, § 11).

Education.

134. In Edinburgh in 1852, the "tobacco boys' school," supported almost entirely by the importers, makers, and manufacturers of tobacco, was remodelled and improved, and a few years afterwards a similar school was established in Glasgow. Mr. White gives some interesting particulars of these schools (H. p. 84, §§ 8–15, and p. 86, § 19). Mr. Longe observes that the results, though in some respects beneficial, have not corresponded with the desires of the promoters.

135. The tobacco boys' school is open from a quarter-past 7 to 9 o'clock every evening. It does not appear, however, that the average attendance has ever represented so much as one half of the boys employed, notwithstanding the exertions of the employers, and the prizes and other inducements offered.

136. The same necessity for some further effort in the direction of education is shown by Mr. Lord in his remarks upon the children in this employment in Liverpool and Manchester (H. p. 90, §§ 13, 14). It is satisfactory therefore to be able to refer to the opinion of the employers in this manufacture in Scotland "in favour of an attendance "enforced by law," as under the provisions of the Factory Act. Mr. White states (H. p. 84, § 6):—"From what I thus learned, it appears that the employers, not-"withstanding their efforts, find it difficult to secure such a school attendance as they "desire, and that an attendance enforced by law would be rather welcomed than objected "to by the leading manufacturers. It appears also that the trade is of a nature which "admits of being carried on within moderate and uniform hours, as it generally is; "though on the other hand these hours are long for boys so young as most of the tobacco "boys are, and it is shown that during brisk trade it has frequently been found that these (*i.e.* late) hours unavoidably encroached upon those of the school" (H. p. 84, § 21).

Tobacco manufacture should be placed under the Factory Acts extension Act.

137. The inference from the above description of the conditions under which this manufacture is carried on is, that it is desirable to place it under the Factory Acts Extension Act, and that no inconvenience to those carrying on the manufacture would be likely to ensue.

The tobacco manufacture in Ireland should be included.

138. The conditions of the trade having been shown to be uniform, it appears that the manufactories in Ireland which exist in some of the principal towns—Dublin, Belfast, Cork, Limerick, Dundalk, and others (p. 86, §§ 16, 18) should be included in any measure thought desirable for England and Scotland.

The Manufacture of Umbrella and Parasol Handles in the Neighbourhood of Stroud.

139. The manufacture of these articles in great quantities is confined to this locality. There are five or six employers engaged in the trade, the largest employing between 250 and 300 hands, "about half of whom would be under 18 years of age." Very young children, both girls and boys, are employed, many of them between 7 and 9 years of age (I. 2).

Very young children employed in cutting bone, and for long hours.

140. Very young boys are engaged in cutting bone with circular saws, and in drilling bone. "The rooms in which this work is carried on are described by Mr. Longe as low "and badly ventilated. The atmosphere was loaded with bone dust," (I. 4).

141. The little boys employed at the circular saws are constantly cutting their fingers. One little boy, between 12 and 13 years of age, had been working at the circular saw, from 7 a.m. to 8 p.m. (meal times excluded), for one or two weeks together (i. 5, i. 2, 17).

Women and children employed in varnishing, &c.

142. Women and younger children are employed in polishing, varnishing, and drying the sticks. "White and red lead is used to give a smooth surface and body to the "varnish. The children have suffered from its unwholesome properties, and it seems "that employers are endeavouring to dispense with it as much as possible" (I. 5). "The rooms in which the varnishing is carried on are, in the case of the largest manu-"factory, very low and badly ventilated" (*ibid.*) Overtime is very common. "One "boy under 11 had often worked three nights a week to 8." A girl of the same age had sometimes worked a whole week to 8 (I. 6).

Overtime very common.

143. The above facts show that this is a case which requires to be placed under the Factories Acts Extension Act.

The Manufacture of Bobbins and Spindles.

Manufacture of Bobbins and Spindles.

144. The manufacture of bobbins and spindles is carried on in all parts of the United Kingdom where there are spinning and weaving manufactures. The chief processes are sawing, turning, boring, and smoothing, by means of circular saws, lathes, drills, &c., worked by power (K. 1). Some miscellaneous articles, such as cotton reels, are also sometimes made in the same factory (K. 2).

145. The numbers employed of all ages, in both branches, according to the census of 1861, are upwards of 2,500, of whom upwards of 700 are estimated to be under 18, all males (K. 8).

146. The evils to which attention is called in the evidence are, 1. The early age at which children begin this work. 2. Overtime. 3. The injury to health caused by the dust given off in the various processes, and by the neglect of proper ventilation. These points are thus illustrated in the evidence.

147. George Owen, a bobbin turner, of considerable experience in all parts of the kingdom where the manufacture is carried on, thus states his opinion as to the ill effects of beginning work so young.

Early age at which boys begin work.

"Putting boys so young to the work, viz., commonly about 9 or 10, is almost the worst thing in the trade. They work that hard that they get fairly mashed up while young, and it crushes their growth, and they can never get to know a thing as they ought, to read or that. They do not usually go to night schools, in the country at least. It would be a very good thing to get this Factory Act, and it is generally thought so in the trade. Ever since you have been in here I have been asked to speak about the boys. It is a thing very much thought about in the trade. If a man has several sons, he is almost forced by his master, in many cases, to bring them to the work, even before he would wish it, or though he would like to keep them at school longer, unless he will bring them the master will very likely refuse to have the man. The men may, perhaps, think that the Act will be good for them, but it will do more good to the boys than to the men, the men generally working by the piece, so that it would not make much difference to them." (k. 3.)

148. At Staveley a young man of 17 states that he began work at 8 years of age (k. 4). The manager of the works stated that of 31 boys, the two youngest were 8 years old (k. 7).

149. At Bradford a boy of 8 was found at work (k. 6).

150. At the same place a boy engaged at shuttle making began at 8 years of age (k. 21).

151. The incumbent of Windermere (k. 13), and also the incumbent of Staveley (k. 14), bear testimony to the evil consequences, physically and morally, arising from the early age at which the children begin to work at this trade.

Long hours of work.

152. The length of the hours of work is thus commented on by the witness abov quoted (k. 2).

"Where the work is done in regular factories the hands work the factory hours, and in factory towns generally the bobbin mills work the factory hours, or but very little longer. But in some places, especially where water power is used, which is chiefly in small country places, the hours are longer, as in this Westmoreland district from 6 a.m. till 7 p.m. One of the Staveley bobbin mills, however, works the factory hours because the owners, I believe, have a thread factory away in Lancashire. In a country place in Derbyshire where I was about four years ago, the hours were from 6 a.m. till 8 p.m., and on Saturdays till 6 p.m. The hours were the same, viz., from 6 a.m. till 8 p.m. in Scotland, when I was there a few years ago, except in Glasgow and Paisley, where the factory hours are kept. Even in Dundee, though it is a factory town, they had the same long day. Long hours are nothing particular there, as the hand-loom weavers work so long and late, all night, I believe, at times. In Scotland in a busy time I have known the hours to be from 5 a.m. to 8 p.m. I have understood that at Inverness they work as long. I do not remember any place where if the men wrought long hours the boys did not do the same. The boys are forced to do so as they are getting work ready for the men, and we take it from them" (k. 2).

153. At Messrs. Chadwick's manufactory, Staveley, the dinner hour is curtailed to make up for the Saturday half-holiday. At the manufactory of Mr. Philipson,

"The proper day's work is 13 hours, with two hours allowed for meals; but the men choose to take less, viz., 20 minutes for breakfast, the same for tea, and half an hour for dinner, so as to leave 50 minutes sooner" (k. 9).

154. At that of Messrs. Stuart, Mr. Rowland Stuart states (k. 11),—

"We begin work at 6 a.m. and work till 7 p.m. on Monday, Tuesday, and Friday; till 7½ p.m. on Wednesday and Thursday, and till 4 p.m. on Saturday. There are two hours daily for three meals."

155. At Messrs. Briggs' manufactory, Bradford, the meal hours are curtailed. Mr. J. Brigg states,—

"Our day is of the same length as the factory day, but the hands leave at 5.30 p.m. instead of 6, taking only 20 minutes for breakfast and 40 minutes for dinner. The usual hours in the trade in some parts are, I believe, 13, but in manufacturing towns like this the hands get privileges which they perhaps do not in the country. We sometimes make overtime till 8 p.m. The hands are allowed to get tea then, but there is no regular stoppage; the engine does not stop" (k. 15).

India-rubber Works.

156. At Messrs. Clayton's, shuttle and bobbin manufacturers, Bradford, a boy of 10 years of age (S. Torr, k. 21) states,—

"All the week we have worked over till 8 p.m." (from 6 a.m.) "Have a quarter of an hour for tea then."

157. The long hours of work for children are adverted to by Dr. Dobson, M.D., Windermere, and by the incumbents of Windermere and of Staveley quoted above (k. 12, 13, 14), as tending to aggravate the injurious tendencies of the work arising from the dust created during the processes, and from the stooping posture while at work.

Bad effects of dust.

158. The ill effects of the dust are thus described:—

"If you were to go over to yon side where they are doing big bobbins, you would see the dust lying very thick on the top of men's coats. If there were openings above they would carry the dust up more. In all the places where I have been I never saw or heard of any contrivances anywhere for carrying off the dust, such as the grinder's fan, which I have seen in Sheffield, or any other contrivance which I have seen for the purpose. Men in the trade in general are of opinion that the work is not healthy. Very many spit, and many go off in consumption. About the time that I came here last year two men died of it at Staveley, one a young man of 26, and another an older man of about 50. Another from Staveley is lying bad of consumption now. I am in bad health myself. A short time ago I had to go to the doctor (Dr. Dobson, *see* No. 12), and he said he thought it was this consumption coming on. He asked me how were the places that I had been in for ventilation, and it said that ours here was very bad. It looks a deal cleaner now, as we have just had the ceiling and walls swept. He spoke of one or two work-places near here as very good, but said that others were pinched up, and that the unhealthiness was a good deal from there being no ventilators to carry the dust away. I had to give up work. I took to spitting blood, and for about a week brought it up twice a day as much as a pint at a time, perhaps before I could get it stopped. I have lately come back to work, but can't do much. I can't stand to it, but have to sit; my back feels as if it would drop and let me down on my knees. I have pain there, and I had it in my chest. As a boy I never had much to complain of in health. I was at the strongest and heaviest I ever was when about 17. After about 20 I never carried much flesh, and I began to get bad in my breathing, and have been so ever since. I am now 29, and began the trade at 12 years old or soon after" (k. 3), (p. 2).

159. Another witness, Mr. Philipson, of Messrs. Chadwick's works, Staveley, thus describes the effect of the dust upon himself (k. 4):—

"Don't like the work it is so dusty, and stuffs you up so; but it's different according to the kind of wood and the job; alder and ash are very bad if dry. The dust chokes up your stomach, and you are obliged to spit it up or you couldn't get on. It stops your breathing; all would tell you the same. Sometimes feel a tickling in my throat. Sometimes your hair is as white as can be with the dust. (Q. Is it healthy work?) Nay; I never heard any say it was healthy; I have heard them say that it wasn't. Have lost a great deal of time sometimes because I was not well. Have the rheumatism and pains in the small of my back; the doctor didn't say what it was from. Sometimes when the work has been very dusty I feel a pain in my breast. Have been bothered with a deal of headache; a good deal of 'em has it and some never has. The work used to have a very great effect of my head; stimulated it like as if you couldn't stand, and made me feel quite dizzy. (Q. Is there much noise). Why you'll have to shout if you want to get anybody to hear you speak."

160. Dr. Dobson thus sums up the causes of the alarmingly high mortality which he believes to exist among the bobbin turners of the Windermere district (k. 12):—

"Young and tender age of entering the mill, long hours, exclusion from sunlight and fresh air, dusty nature of work, mode of living, want of out-door exercise, and in some instances to the badly ventilated and lighted mills."

161. It is plain that the provisions of the Factory Acts Extension Act would be beneficial in this case, especially the clause (4) requiring that—

"Every factory to which the Act applies shall be kept in a cleanly state, and be ventilated in such a manner as to render harmless, so far as is practicable, any gases, dust, or other impurities generated in the process of manufacture that may be injurious to health."

India-rubber Works.

162. The numbers given in the census of 1861, as employed in this branch of manufacture, were only 1,290 of all ages, of whom under 300 were by computation less than 18 years of age. But Mr. Lord found in the course of his inquiries in 1864–5, above that number in the five works which he visited, and he justly remarks that this manufacture is probably "still far short of its full development" (L. 1, 2). The condition, therefore, of the children, young persons, and women employed in india-rubber and waterproofing works is a "more important subject of inquiry" than would appear from their present numbers.

Excessive hours of work.

163. The only circumstance connected with their employment which points to the necessity for legislative interference in their behalf, is that of excessive hours of work for children and young persons of both sexes, and women. About three-eighths of the whole number employed are usually females (L. 4). On the subject of the long hours of work Mr. Lord states (L. 8–10),—

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The hours of work are often long, from 6 a.m. to 8 and 9 p.m. being not unusual in Manchester and in London also. Mr. Birley's evidence on this point relating to the need to strengthen the employer's hands by legislative interference is very valuable (No. 1). Some time after he had given it, on meeting me again, he mentioned in the illustration of the difficulty he found in keeping to regular hours, that although work had been going on for some time before Whit week from 6 a.m. till 10 p.m. at his works, he should not have discovered it but for the accident of one of the young women fainting at a tea party given by him to the workpeople. This led to inquiry, and then he found that her exhaustion was attributable principally to having been working so long for several nights previously.

"Among those whom I questioned myself at Manchester, I found a boy of 14 who had worked on most nights, except Saturdays, from August to Christmas, from 6 a.m. to 9 p.m., and a girl of the same age, who said that she was very tired after having worked till 9 p.m. from 6 a.m. for three weeks (Nos. 2–4). Girls of that age in London have worked from 6 a.m. to 8.30 p.m., often for a fortnight together, and sometimes to 9.30 p.m. (No. 12, and see Nos. 10, 13, 17, as to adults)."

"In one department of Mr. Hamer's works a system of night and day turns was in use. This is not general in the trade, and would be discontinued there (No. 8). It has been adopted elsewhere in seasons of great pressure (No. 1)."

Employers desirous of support of Factory Acts Extension Act.

164. Several of the employers whose evidence was given to or obtained for Mr. Lord agree in wishing for the support of factory legislation in limiting the hours of work for females and for the young; and the desire manifested by them to improve the condition of their workpeople, and to extend to them the benefits which they have seen to result from the Factory Acts in other branches of employment, are circumstances which cannot be recorded without feelings of gratification.

Overtime unprofitable.

165. Another instance may here be added to the many already given in our reports, of an employer having discovered by experience that overtime was not profitable. Mr. Spill states,—

"We have not made any overtime for the last two years; before that time we often made two or three hours' overtime, but we found that no more work was done than could be done in the regular hours, so we have now adopted a plan of paying for the day of 10 hours whether they work the whole day or not; in the summer time they frequently make only a three-quarter day, that is from 8 a.m. to 5.30 p.m. We have the same rule for our piece-workers, and as a matter of fact, as much is done in 10 hours under proper management as used to take 13 or 14, for they used to loiter over their work in order to get paid for overtime; the employer saves a great deal in gas alone." (l. 17.)

Artificial Flower-making.

166. This branch of industry is one eminently requiring legislative regulation.

167. It consists of two departments: the manufacture of coloured flowers, which is almost entirely confined to London; and the manufacture of mourning flowers, which is carried on both in London and in Manchester.

168. The persons employed are almost entirely females. Sex.

169. They are thus distributed according to the census of 1861:— Numbers.

In London:			
Under 15 - -	463		
Between 15 and 20 -	2,335		
		2,798	
In other parts of England and Wales:			
Under 15 - -	550		
Between 15 and 20 -	2,503		
		3,053	
			5,851
In all England and Wales:			
Above 20 - - - -			4,946
			10,797

170. In these totals there are of males only 620 over 20, and a few youths and boys under 20; none of the latter being under 13.

Hours of work.

171. In the manufacture of coloured flowers, in which the great majority of all the persons in the trade are engaged, there are two busy seasons of four months each. During these periods, amounting to two-thirds of the year, the hours of work are described as "tremendous."

"For a considerable portion of that time girls of 16 and upwards constantly work 14 and 15 hours a day, and occasionally as much as 18. One girl, aged 19, had worked twice all night through, and on till 5 p.m. on the first, and 10 p.m. on the second occasion. Even children of 12 and 10 have often worked 14 and sometimes 16 hour" (M. 11).

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172. It is satisfactory to learn that these long hours—most prejudicial as they are to health—are "wholly unnecessary." They arise from the "inveterate habits" of the workpeople themselves who in this, as in many other trades, in which the hours of labour of the young are not regulated by law, persist in idling during the early part of the week, and making up for the time lost by late and exhausting labour towards the end. This habit is thus described:—

"Ours is the worst trade for irregularity; we cannot get the workpeople to come at 9 a.m. or anything like it. Many won't come till 11; they play on Monday and don't do much on Tuesday; on Thursdays and Fridays they work hard. We have double as much work done on those two days as on the rest. On Saturday they leave between 2 and 4 and do very little in the morning" (m. 1). "They generally waste a great deal of their time, and get through as much in the last three hours of the day as in all the rest." Even when the demand is greatest, "they won't come early; and if they work on till 11 or 12 at night, they cannot be early next morning" (m. 5).

173. It is clear from the evidence that both employers and workpeople desire that the hours should be "less and more regular than they are, but they cannot form a "system for themselves, and no employer can enforce rules upon them because the "habits of the people are all the other way" (m. 2). We, the employers," said one witness, "suffer more than any, for as long as any work is going on, we" must be about" (m. 1). Some have made efforts to limit the hours and reduce them to regularity, and have to a certain extent succeeded (m. 11); but others have been obliged to abandon the attempt after a trial (m. 1). It is acknowledged that the workpeople suffer in health from the present practice, not only by the lengthened hours, but especially by the consequent necessity of doing so much more of their work by gaslight and by the heat and bad air (m. 2). It is noticed that those workpeople who are early and regular are "certainly more healthy" than the others (m. 1); and in another establishment, where the hours are regular, it was asserted by one of the workers that they were all in better health than those under another employer where the usual long and irregular hours prevailed (m. 13, m. 44).

No special difficulties in the way of legislation.

174. The only question appears to be whether any special difficulty exists which would render it inexpedient to place this manufacture under the regulations of the Factory Acts Extension Act. We are of opinion that there is none.

175. Two of the leading employers in the trade thus express themselves on this part of the subject. Mr. Lockyer states (m. 1),—

"I should like very much to have the whole trade governed by some sort of Factory Act; we could manage very well with working from 8 till 8 or from 9 till 9, and I am sure that the workpeople would like it too. Employers like myself would be pleased to support any such scheme if it were general in the trade."

Mr. Vernon states (m. 5),—

"For my own part I should be very glad to have a regular system of hours enforced, and would give any scheme to secure it all the assistance in my power."

Objections suggested not valid.

176. Two subjects suggested themselves in the course of the inquiry as possibly involving objections to legislation: one proceeding from the point of view of the workpeople, the other from that of the masters.

177. The first was to the effect that as this is a "season trade," and the slack times amount to almost one-third of the year, it would be hard to prevent the people "earning "as much as they could in the busy season to make up for the absence of work in the "slack time" (m. 10). The competition of French goods of the same kind was also urged in reference to this point by the same witness (*see also* m. 12).

178. But the testimony is very strong to the fact that there is nothing really gained either by the employers or the employed by these extra hours, and that if the workwomen would come early and punctually, and work industriously during the 12 hours from 8 a.m. to 8 p.m., or from 9 a.m. to 9 p.m., nearly if not quite as much work could be done as is now got through on these premises in the three or four hours more (M. 12).

179. The forewoman of Messrs. Lockyer, Miss Emma, stated (m. 2), "What they "want is to be all of them compelled to come or to leave at fixed hours whenever they "are working. They would earn as much between 9 and 9 as they do now by staying "till 11 or 12, for the more they have of gaslight the less they are able to do. It is that "and not the mere length of hours that injures health, the heat and the bad air." Mr. Vernon states (m. 5),—"I am quite sure we can get through all the work we want in 12 "hours, 8 to 8 might suit some, and 9 to 9 others; but a fixed time of that kind would "suit the hands admirably." Miss Wood states (m. 6),—"I quite agree with what Mr. "Vernon says about it being an excellent thing to limit the hours, and am sure that all "the work we want could be done between 8 and 8." Mr. R. Johnson states (m. 11),—"It is not those who work the latest that earn the most, but those who are steady "and don't waste their time in talking and laughing. * * I have at least 20 whose

" weekly earnings, taking the whole year through, busy times with slack, will average " 15*s*."

180. The second point is that the large employers apprehend a difficulty in bringing the small ones also under regulation, and they rightly consider that injustice would be done, and a most ineffectual remedy applied, unless any Act that might be passed would reach the smaller class of employers.

Small masters must be included.

181. It appears that the trade is carried on by the two classes of employers under very different conditions.

182. It has become the practice within the last 12 years to collect large numbers in this trade to work together. " It used to be very rare for 50 to work in one place (d. 11), " but now, out of nine large establishments," visited by Mr. Lord, " five employ, " when busy, more than 100 persons on the premises; at one there are seats for 180 " (M. 6).

Larger places of work, and their state.

183. Where numbers such as these are collected together they are easily reached by legislation. The place of work falls within the accepted meaning of the term " factory," and the ordinary administration of the factory laws could be readily applied to it. And that such supervision and regulation is required in this case is abundantly plain from the evidence.

184. Mr. Lord thus sums up the nature of the accommodation and the sanitary state of these places of work. (M. 18.)

"The accommodation in large factories is in many cases quite inadequate to the numbers employed there in the season. In one room which I measured, the number of cubic feet per head was 131; in a second, 111; the latter room was calculated to hold more than 70 persons, the former about 14. In a third large room, when at its fullest, for six weeks or so, the cubic feet per head are 95; in another, 86; and in a fifth only 70. The heat and bad air are very generally complained of; the gas burners often have neither glass nor shade. Small gas stoves, used to heat the tools, are commonly placed on the tables, almost under the mouths of the workpeople. In some cases the smell from the waterclosets makes the whole workroom offensive (No. 15). The business, strange as it may seem, is essentially dirty and 'dusty beyond belief' (Nos. 6, 11). One witness finds it necessary to have one of his workrooms limewhited twice, and another papered once, in every year" (No. 11).

185. But,—

Small places of work, and their state.

"Much work is still given out to be done in small places where a family works with two or three others to help them. This is particularly the case with mourning flowers, violets, and other simple and common goods. In most cases the work places are mere dwelling rooms, sometimes back kitchens on the basement. These are often dark and fetid" (M. 17).

186. Of these small places of work the following is the account given by several witnesses :—

"The state of things is no doubt worse in small places. There are many small men with whom we (the larger employers) in fact compete, who occupy, it may be, a six-roomed house, and employ six or seven little girls in day or taskwork, in a room upstairs, or a back kitchen, and have their wives to finish off" (m. 1).

187. The above witness, Mr. Lockyer, states that out of 250 workpeople to whom he gives employment in the busy season, about 100 would be working at their own homes in the manner described, working in small rooms with their parents, together with a few paid workers.

188. Of the children in these small places the forewoman of Mr. Lockyer states (m. 2), that " in the smaller places there are more children in proportion to the total " number, and they are younger than ours." And Miss Wood, forewoman of Mr. Vernon, states (m. 6) that, " these small men who have their wives or perhaps another " young woman and two or three little girls to help, working altogether in the living " room, if not the sleeping room, they must be limited too, or else all of our work " would go to them."

189. The precise proportion of children and young persons employed at home to the entire number in the trade we have not the means of stating, but it is evidently very large. The largest employers, as has been seen, give out much of their work, and several of the witnesses assume as a matter of fact that the number is large. Mr. Clitheroe states (m. 18) that " he has seats on the premises for 180, but besides these many out- " door hands had work given out to them, especially for violets." And Mr. Damon states (m. 33) that he " employs 17 females in making flowers of various kinds, not " wholly mourning, though that is perhaps his chief business;" and that very few, if any, manufacturers of mourning flowers in London employ more than he does on his own premises. " Most is done by men at home with their wives or some children to help. " In Manchester, and I believe in Nottingham too, many more young ones are col- " lected to work in one building than is the case here; indeed, they are able by that " means to obtain their labour cheaper than we can, and so are supplanting us in the " market for the common goods."

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190. The trade appears to be increasing in Manchester, about 300 persons being now engaged in it there (m. 35), "chiefly girls from 10 to 16 years old" (m. 42). Five or six employers are stated by the last witness to employ from 12 to 20 hands; "a "number more will have six or seven working for them."

Same legislation applicable as suggested in 2nd Report.

191. The case of the small employers in this trade is in all respects similar to that of the small employers in the metal trades treated of in our Third Report; as also that of the "Private houses," and the "Cottages or small rooms in private houses, and other "places of work of a like nature," described in our Second Report; and we are of opinion that the same kind of legislation which we have submitted in s. 465 of our Second Report as applicable to those cases may with entire propriety be adopted in this case.

Ill effects of the employment on physical education.

192. The ill effects of the employment on the physical condition of the workpeople, especially of the young, afford another reason for legislation. The strain on the attention of the young in the course of the long hours of work is great; and as a great deal of the prolonged labour takes place by gaslight, and in a high temperature, the injury to the eyes and the general health is proportionately increased. Mr. George Elphick states (m. 10),—

"A bad instance of the way in which such children who help older ones are overworked occurred in our own establishment some little time back; directly I found it out I put a stop to it, but it was only by noticing the state of the child's eyes that we were led to inquire further. She was about 13, and came to help an older sister, who used frequently to make her stay and work till 11 and 12 at night. We were told once when we found her there late that she was only waiting for her sister to go home with her, but that was untrue.

"It is very trying to the eyes to have to distinguish by gaslight, or perhaps as daylight is failing, between different colours such as blue and green, or different shades of colour very nearly alike; and that a child would have to do in many cases. The mere putting the wire through the very fine holes in the centre of the little pieces of material, and the effort to observe which of two very nearly the same size should come next in order, is, for a child, and at such a time after a day's work, hurtful."

193. "The effect of the constant sitting in 'hurting the chest' is mentioned by some of the witnesses (m. 20, 22, 23), and the dust which arises from the colouring matter in the flowers 'is complained of more than anything else in the business as being injurious both to the 'eyes and to the health generally' (M. 24). One witness states (d. 6), that the dust which is produced 'is beyond belief.' * * 'It gets on the hair and the pleats of the 'dress, and lies quite thick upon the table after the day's work.' Mr. R. Johnson states (m. 11), 'It is a very dirty trade, though you would scarcely think so. It takes three 'persons every Saturday from 5 and 6 till nearly 12 p.m. to wash and clean the four 'rooms thoroughly. I have them lime-whitened twice a year, and where the walls are 'papered have a fresh paper every year.'"

194. The evidence of Mr. Taylor, F.R.C.S., of the Central London Ophthalmic Hospital (m. 31), is confirmatory of the above statements. It appears that "artificial flower "makers are frequently patients of that hospital, and that they suffer in two ways; "either from 'a form of weak sight known as *asthenopia*,' or from chronic inflammation "of the eyelids."

Irregularity of meal hours.

195. Short and irregular meal hours, which are the common habit of the trade, cannot fail (more especially when in conjunction with the prolonged hours of work) to act injuriously on the health of the young and feeble, "working through the meal times," and "eating at the table where they worked," are referred to as common practices by several witnesses (m. 1, 2, 5, 10, 13, 15, 20).

Effects of the habits of the trade on the education of the young.

196. The age at which the children (almost entirely girls) begin to learn their work is sometimes as early as 8 or 9 years (m. 23). One witness, Mrs. Davis (m. 3), states, "10 as the usual age at which girls begin to learn," and "they have often been "at a smaller place" before coming to work at the large employers.

197. The necessity of acquiring delicacy of touch causes them to begin early (d. 10). The majority, it would appear, begin the work at from 10 to 11 years of age (M. 5). It may be inferred from the figures given at s. 147, that the total number under 13 in the trade, and who would therefore be brought under the half-time and education clauses of the Factory Act, should it be applied to them, would be about 700.

198. The protection of these clauses is greatly needed by the younger children engaged at this work who are still "learners" and "helpers." An end would by their means be put to a system which is common with a certain class of masters not only of employing children during the whole 12 hours without regular meal hours, but of getting an extra amount of work out of them without any extra remuneration. The children are paid by the day, the elder workers, whom they assist, by the piece. The latter are constantly tempted to work over hours in order to increase their earnings. While they remain at work they retain with them the younger children as late as 8, 9,

and 10 o'clock (m. 20, 23, 25), and sometimes later, even to 11 p.m. (m. 11, 20). But the children, working as they do by the day, "get no benefit from the extra "work they do" (m. 10). The system is thus described by Mr. George Elphick (m. 10):— Artificial Flower-making.

"But if this inquiry is intended to aid the worker and prevent the oppression caused by the heavy "day" or "task" work, its results must be most beneficial. There is a great deal of that in the trade, and it is among employers with whom such a system prevails, that you will also find the younger children in the trade. These persons agree in the first instance to give their hands a fixed weekly wage, calculated on the basis of their doing so much a day; after a little time they put the screw on, and work them up from four bunches a day, say, to four and a half, then to five, and even six by degrees, so that at last they get a day and a half out of them for a day's wage. It is especially on the children that this falls heavily, for they are of course much more frequently paid by time than by piece work. The same thing operates where the older hands are allowed to bring children to help them. Their object, of course, is to earn all they can, but the children are paid by them so much a day or a week, and get no benefit from the extra amount of work they do, while they are continually being urged on to "be quick" and to "look alive," and if not knocked about, are at least frightened or worried into over-exertion."

199. That the education clauses of the Factory Act are greatly needed to remedy past neglect in the education of the young is clearly shown. Mr. Lord states that he "found girls of 10, 12, and 15 unable to read (M. 29), and many young women appear "to be unable to do so after they have grown up (m. 25, 32). Out of 40 females in "the employ of one master, none of them under 13, and only three under 15," most of them being "about 16 to 20 years old;" it was stated by the employer (m. 32) that 9 out of 12 were badly educated; they could "perhaps read a little, but not write, and "all of them have a very imperfect idea of right or wrong." The state of education among these young workers at Manchester was found by Mr. Lord to be even worse than in London (M. 31, m. 35, 36, 37, 38, 39, 40, 43), and as regards both London and Manchester, Mr. Lord states that,—

"'The neglected education of the children is attributed rather to the indifference or the vices of 'the parents than to their poverty.' Some of the best educated are those who have had the greatest disadvantages." (M. 32, m. 25, 37, 40).

200. That the education of these workpeople would be a benefit not only to themselves, but to their employers, in reference to their trade, is plain from the circumstances of the case. It is a trade in which artistic taste must manifestly greatly contribute to success. The duty having been taken off French goods of the same kind, the English workwoman is exposed to direct and close competition with the French, and as a consequence of the present state of things, "the trade of England has been considerably "affected" (m. 10). Mr. W. H. Boulton states (m. 12), "I am bound to admit "that the French workpeople in this trade excel ours; they take so much more "interest in their work, and have a pride in it; ours use their hands—make up what "you put before them—but do not use their heads." Another employer, Mr. W. Towsey (m. 32), states that he "cannot procure sufficient hands who are respectably "educated, though it is a very pretty trade, and highly paid." He adds that he had "always found that the steadiest and most industrious workwomen were those most "respectably connected and best educated;" and that, "if they were taught by their "parents to believe in and to fear God in their infancy, they would of their own "accord try to improve their education, and would be much better hands at their "trade, which requires some artistic taste." Benefit of education.

201. Mr. Lord states (M. 14), that although comments had from time to time been made to him "upon the utter indifference" shown by wholesale houses to the inconveniences and overwork resulting from the giving of "sudden orders" for goods to be made and delivered within a few hours, in no instance had he heard "such unanimous "and such bitter complaints as from artificial flower manufacturers." Mr. Lord mentions the following facts (*ibid.*):— Sudden orders, complaints of.

"Those who have used the strongest language have naturally been most averse to letting their names appear in connexion with it; but I am sure that many philanthropic gentlemen at the head of large wholesale city houses would be much shocked and pained if they could realize the feelings entertained by many of these, so to speak, small manufacturers towards those who represent them in such transactions. An illustration of the short notice given by such houses, though not of the complaints above referred to, is given by a witness (No. 5), who mentions an order which he refused, received by him at 5 or 6 p.m. on the day before my visit, to be delivered without fail the next morning; 'it could not be done without working very late.' And similarly another: We had 50 orders one 'after another marked 'special,' or in some such way, coming in at 8 p.m. perhaps, to be delivered 'without fail to morrow morning; or an order at 11.30 a.m. to be delivered in the city at 3 p.m. on 'the same day (No. 10, and see 13)."

202. The extension of the railway system is said to have contributed greatly to this custom of giving sudden orders, and the consequent hurry, neglect of meal times, and late hours of the workpeople. Mr. Boulton states (m. 12),—

Ostrich Feather Makers, Bootmakers, Tailors, Hatters, Glovers, &c.

"The extension of the railway system throughout the country has tended very much to encourage giving short notice. Purchasers now come up from Glasgow, Manchester, and Edinburgh once every fortnight or so to the wholesale city warehouses which we supply, and give small orders requiring immediate execution, instead of buying from stock as they used to do. Years ago we were always able to work in the slack times so as to meet the demand of the next season, but now no one can say beforehand what will be in demand then."

203. In our previous Reports we have had occasion to notice this subject of "sudden "orders" and their injurious results; but in those cases the persons who expressed a desire to perpetuate the system were the manufacturers, under an apprehension that if the hours of children, young persons, and women were reduced and limited by law, their trade would be seriously affected, and the facts and arguments we have been able to adduce have been designed to show that such apprehensions were groundless. But happily in this case the manufacturers desire to be able to protect themselves against this cause of overwork; and it appears, indeed, that they would welcome the interposition of the Legislature in putting an end to it. The great preponderance of the evidence given by them is to the effect, as shown by Mr. Lord (M. 12), that the ordinary factory hours would be much more satisfactory to all parties.

Manufacturers desire interposition of Factory Act.

204. We can, therefore, have no hesitation in recommending that the artificial flower manufacture should be placed under the Factory Acts Extension Act.

Ostrich Feather Makers.

205. Mr. Lord states that artificial flower manufacturers have been led "in several "cases to add to their own proper business that also of the ostrich feather making, "although the two trades are still usually independent of each other" (M. 2).

206. Although the total number of feather makers is comparatively small, "the "conditions of employment are for the most part very similar" to those of the artificial flower makers (M. 2, m. 44). The persons employed are, with few exceptions, females, the majority being under 25 years old. They begin at 11 and 12 years old (m. 44). The workrooms are "liable to being exceedingly hot and overcrowded," and the hours of work are, during the two busy seasons of "two or nearly three months twice a year," on an average from 8 a.m. to 10 p.m. The seasons are described as being from March to May, and from September to November, perhaps 10 weeks each time (m. 48). One witness, age 19 (m. 46), states that at one place where she had worked, and where 60 were employed, she worked "for several weeks day after day from 9 a.m. to 12 at "night; so did most of them;" also "in smaller places in outlying districts" children are employed and for long hours (m. 48). The meal times also are liable to be curtailed and irregular (M. 42, 43).

207. These facts prove that the ostrich feather manufacture comes within the same category as the artificial flower manufacture, and should be included in our recommendation in paragraph 181.

REPORT ON BOOTMAKERS, TAILORS, HATTERS, GLOVERS, &c.

208. In our Report on the Manufacture of Wearing Apparel we stated (2nd Report, ss. 312, 313) that it had reference exclusively to females, and that on a subsequent occasion we should inquire into the labour of male persons under 18 years of age occupied as boot and shoe makers, tailors, hatters, glovers, &c.

209. We proceed to direct attention to Mr. Lord's report upon that portion of the subject.

Number of children and young persons employed.

210. Taking the census returns for 1861 as the basis of calculation, and deducting two-fifths from the number of bootmakers, tailors, hatters, and glovers, between the ages of 15 and 20, as given by Mr. Lord in the table which he has constructed (O. 2) it would appear that the total males under 18 in those occupations in England and Wales approximate to 70,000. The numbers for Scotland under that age may, according to the census, be stated at 6,016, nearly all being of the two first-named trades, in about equal proportions. In the census for Ireland the ages are not given; but taking the same proportion as in Scotland, the number of male boot and shoemkakers and tailors under 18 would be 9,000. The number of females in all these four employments, in Scotland and Ireland is, according to the census, very small.

Bootmakers.

211. Of the total of 70,000 under 18 in the above-named four occupations in England and Wales, those engaged as boot and shoe makers amount, according to the same process of calculation, to about 45,000.

212. They are employed (N. 19-21)—

1. In factories.
2. In small workshops, where three or four journeymen with their boys work together.
3. In the homes of the journeymen.

Localities in which the manufacture is carried on.

213. The towns in which the manufacture is carried on in factories are London, Leicester, Northampton, and Stafford. In London as many as 200 men and boys are employed in some factories, and in Leicester and Nottingham as many as 300 (N. 5–7).

214. In each of these places a great portion of the work is given out either to journeymen working together in small shops, or to men working with their wives and children in their own homes.

Age.

215. Boys in factories often begin work "as young as 10, and even 9," but the majority not until they are nearly 11. Most boys who work for journeymen in their small shops, or at home with their fathers, begin at about 10 years of age, some probably much earlier (N. 5, 6).

Hours of work.

216. In the London factories the ordinary hours do not vary much from those of the Factory Act, and in Northampton, Leicester, and Stafford, they conform to them very closely, including the recognized factory hours for meals.

Overtime in factories.

217. But in London the ordinary hours "are frequently exceeded in the busy season "to the extent of from two to four hours, and for periods of from three to six months "in the year altogether" (N. 19). In the other towns overtime is much less frequent, and not beyond two hours, and for no long period together (*ibid.*).

Overtime in small workshops and private houses.

218. In the small workshops, and where work is done by the journeyman with his wife and family at home, "the invariable characteristic" is that much time is idled away at the early part of the week, and long hours consequently follow towards the end. This habit, and its injurious consequences, are described in the following evidence:—

219. Mr. Walter (N. 4):—

"We are liable to pressure now and then; for the last fortnight we have been working four hours overtime, but the men get fagged with it, and have asked for the future to knock off the two hours extra in the morning, and say they can get through nearly as much with two hours overtime as with four, so we shall try them, Our overtime amounts to about three months in the year, but not for more than a week or two continuously."

220. Mr. Thos. Hickson (n. 5):—

"The usual hours of work are from 8 a.m. to 7 p.m.; the overtime is optional, the doors being open at 7 a.m., and closed at 9 p.m. Such overtime lasts for three months in the summer, but the men cannot stand more than four or five such days in the week, though they prefer working hard for those days, and having one or two easy days in the week. They adopt in fact the principle of journeymen working as they do in their own homes."

221. Mr. S. Simon (n. 11):—

"I manufacture for the wholesale and the ready-made trade. At one time I employed a large number of persons on my own premises, but now I give most of my work out, and have here only the clickers (who cut out for the uppers), and a few girls who work sewing machines. I had nearly 100 girls employed here, but the greater part of them prefer to work at home, for there is a sewing machine in many families now.

"There are some few boys, apprentices, who work with the clickers. Their hours are from 8 a.m. to 7 p.m. with us, and that is long enough. In my opinion, overtime is unprofitable, as well as injurious to health.

"Where boys are chiefly employed in the boot and shoe trade is among the riveters. A rivetter has two boys, of 12 or 14, who drive the nails in the holes which he makes; they also file the heads down. He pays them from 2*s.* 6*d.* to 5*s.* a week. It is among them that the habit of late hours of work prevails; it is nearly all home work. I tried having them here, but found that their habits were too strong for me. The men would not come in to work till 11 or 12 in the morning, and would not leave till 11 or 12 at night, so I gave that up.

"But those are their habits at home, and frequently there is nothing done on the Monday and Tuesday, and consequently they work very hard at the end of the week, the boys working the same hours that the men do, for they must go on together. It is wholly unnecessary. If they choose to work regularly from 8 a.m. to 7 p.m., for example, every day in the week, they could get through as much, and probably much more, and with less effort. As it is, many don't come here to take their work out till mid-day nearly, and others not till 7 or 8 in the evening."

222. — Presser (n. 14):—

"As to home work there is no knowing how long they work. In the low common kind of work, among the german slipper makers for instance, there is no end to the work, and no beginning either, just as much on Sunday as on any other day; they often go on till 11 p.m. Sometimes they don't get home from the shop till dinner time, and so don't begin to work till late, but the boys will be there in the morning.

Boot-makers.

"I began at stitch work at 12 years old, and worked all hours, from 6 a.m. to 10 p.m. constantly: I was not with my father, but with a journeyman who had no one else. Afterwards I was at a Polish Jew's; I was 17 then, he had three men besides his own family. I wouldn't work on Sunday, but often began at 12 on Sunday night. The boys who work at small places like that or at home are from 10 to 6 years old. There is no regular agreement; they are generally paid by the week; when I was with my first master I had 7*s.* a week, no more, however long I worked."

223. Mr. C. Parohl (n. 19):—

"This rivet work is ruining the boys in the trade, for all they learn is driving the nails and filing the roughness off. Finishing is bad work for health. My wife's nephew and his wife are in that. They often work from 4 a.m. till 11 p.m., and only earn about 23*s.* a week. It is all done at home. They sit close over the fire where the iron is warmed; and hurt their chests by pressing the heel of the boot against it in burnishing and filing. He wants to have a boy to help him: but I would not recommend any to take up that work. It is a common practice for finishers to work all Sunday, and they are in the habit of drinking a great deal of beer to keep their spirits up; for the sitting all day in one close room is very depressing."

224. Mr. Tribe (n. 24):—

"But there are plenty of boys working for journeymen in the boot trade who have to go on 16 hours a day. It is all bad management. Some of the fault is with the masters, who don't give out the work so soon as they might; but it is most the habits of the men, who choose to be idle for the first day or two in the week, and work on till 2 or 3 a.m. in the latter part. This is not peculiar to Brighton or any other place, it is the same all over the country.

"Boys are not usually apprenticed till 13 or 14, but may go much younger than that, under a sort of agreement at about 10. This boy here is 12. He has been a year with me, but they begin younger than that. I began myself at 9. I did'nt work so very long at first, for I was with a relation; but at 11 I used to work 14 hours a day for 5*s.* a week. Those are, in fact, the regular trade hours, 14 hours, with two hours out for meals. It is certainly too long for growing boys, particularly as they have to sit and stoop. Want of air and exercise is the bad thing. I have myself often laid on my back after leaving the "seat" quite unable to move. I learned to do this (showing a snuffbox) at 14 years old to keep myself awake at work."

225. Mr. J. B. Simon, manufacturer of Hardingstone, Northampton, also states to the same effect (n. 28,):—

"Rivetting is chiefly carried on in the factories; but finishing and closing almost entirely at their own homes. In the factories the average day is 12 hours, that is from 8 a.m. to 8 p.m., or in the summer from 6 a.m. to 6 p.m.

"In their homes there is no stated time, generally the early part of the week is wasted, and towards the close they are then obliged to work all manner of hours."

State of places of work.

226. The places of work, both large factories and the small rooms, in which a few journeymen work their boys, and the places where "garret" or home work is carried on, are thus described by Mr. Lord (N. 17–18):—

"The rooms where the clickers cut out material for uppers are, in most factories and workhouses, clean and light, in some recently erected they are even fairly ventilated. The rivetters are not so well off, their work-places, in London at all events, are frequently over-crowded, and usually close and dirty; one, which the foreman assured me, with pride, was the best in London, contained 216 cubic feet of air per head, and about 400 to each gas jet, and the contrivance for ventilation was of a very rude and ineffective character; yet, so far as my experience goes, the statement of the foreman was correct. The great heat of the gas is a constant source of complaint both in London and elsewhere (No. 422, p. 193, Second Report). Some have erred on the side of excess in ventilation, and bronchitis has been attributed to draughts arising from the size and height of the workroom.

"At the same time such places are very superior to any accommodation possessed by those who take work out, whether they work at home or, in the case of rivet work, in the rooms of middlemen, who let rooms to different journeymen. Their houses are described as 'miserable hovels.' Their workrooms as 'dreadful places, underground kitchens' (Nos. 4–13). With finishers this is even worse than with the rivetters or the seatsmen, for the work is more dirty, and stoves or gas gets, in which they heat their tools, are constantly burning on the low table at which they work 'packed as close as they can sit' (Second Report, Nos. 318,, 319, 421, pp. 167, 193)."

Education.

227. The evidence collected by Mr. Lord (N. 42–47), shows that the education of the young in this employment is in a very unsatisfactory state, and he calls particular attention that,—

"When the labour of a district goes on for the most part in the houses of the operatives, ignorance and disregard of education exist to a much greater extent than where the home and the work-place are totally distinct. Where the operatives meet for their daily labour in a factory, under a system of fixed hours, which controls their irregular habits, and if it admits of overwork, at least makes that also regular."

General characteristics of employment.

228. The other general characteristics of this employment are well described by Mr. Lord (Nature of Occupation, N. 30–36), and, together with the details above adverted to in this report, lead to the conclusion that, in regard to those places of work which would come under the denomination of factories, this is a case to which the provisions of the Factory Acts Extension Act are plainly applicable; that no injury to the trade could arise from the limitation of the hours of work to factory hours; and that benefit to the health of the persons engaged in the trade would manifestly ensue from the sanitary inspection and regulation of the places of work in the manner pointed out by that Act, and also from the education clauses of the Act in regard to the young.

Should be placed under Factory Acts Extension Act.

229. And with respect to the small workshops of the journeymen, and the "garret" or domestic work, we are of opinion that the general provisions which we have recommended in our Second Report (s. 465, C. Private Houses), in reference to the workrooms and "mistresses houses," and to the private houses in the lace trade, might with propriety be extended to this employment. Tailors.

Tailors.

230. At the east end of London, and generally where clothing is made by the wholesale and "ready-made" houses, tailors' work is done largely by females, in consequence of the increased use of the sewing machine. With these we have dealt in our Second Report. The west-end first-class houses employ very few youths under 18. It is in the country and where work is given out to journeymen that boys are employed, beginning sometimes at the age of 9 and 10, but usually about the age of 13 (N. 48–53). Age of boys when they begin work, and numbers.

231. There appear to be about 20,000 in England and Wales under 18 years of age (N. 2). The female tailors of all ages, dealt with in our Second Report (s. 414), amount, according to the census of 1861, to 27,386 of all ages, making a total of male and female, who would be included in legislation, about 47,000.

232. The youths under 18 are found one or two together, either in small shops or employed at home by their parents (N. 48. 52.) Either in small shops or in their homes.

233. Although not universal, over hours appear to be very common in London among the journeymen during about six months in the year. At those times the boys work 15 and even 18 hours a day for several days together. Overtime.

234. In some provincial towns the regular hours are 14 a day, and at times of especial pressure longer (N. 55).

235. The character and habits of the master, and also those of the apprentice and his parents, greatly determine those hours. Among them, Mr. Lord states (N. 55, 56):—
"The irregular hours usually characteristic of home work are found to prevail, and, "as might be expected, to arise from the two most common causes; one being the "habit of the men to waste the early part of the week, and work hard at the end; the "other the practice of employers to avail themselves of that habitual irregularity when "any extra work is wanted at a push, so that work goes on till 11 and 12 p.m., or 2 a.m., "or as the usual phrase is, 'all hours'" (n. 38, 39).

236. This is universally allowed to be a bad system. "Ten or 11 hours a day is quite "enough for a growing boy," says one who has a son aged 15 working with him (n. 36). "I think," says another who speaks with a vivid recollection of hard work, "it would "be a good thing if all apprentices worked only from 8 a.m. to 8 p.m., and had an "hour for dinner out of that; it would be better for the lads, and no worse for the "masters; but they are curious men, and think it does a boy no harm to work too hard "for half the year, if he is nearly idle for the other half" (n. 37).

237. The state of the work-places among the journeymen who take apprentices at the west end of London is said to be "wretched in the extreme." "The work at home," says one witness, "is very irregular, and the work-places very unwholesome; the majority "eat and sleep and cook and work in one room" (n. 31, 33). "The stench" says another, "is enough to knock you down; you go to the door, perhaps, and open it, but "shudder to go further into the room. There are hundreds of such places within five "minutes walk of this shop of mine" (n. 38. See Second Report, p. 148, No. 221). In such places several men often work together. In one case, Mr. Lord states, he "found seven under one man who took work out from a west-end house. These were "all crowded together in a back street near Golden Square. The owner of the room "was very proud of the accommodation, saying, as he showed me in, that very few had "a separate workshop thereabouts, but most used their living room for work and often "for sleep too. Similarly the witness, whom I have already quoted (n. 35), told me "without any hesitation, and apparently as a matter of course, that his apprentice, if he "could get one, would sleep in the workroom." State of places of work.

238. In another case, Mr. Lord found seven sleeping in the workroom (N. 57).

239. Dr. Edward Smith, in his report on the state of the "Shops" in London where tailors work on the premises of the employer (sixth Report of Medical Officer of the Privy Council), gives the following account of their sanitary condition (p. 419):—

"Shops vary much in their sanitary conditions, but almost universally are overcrowded and ill-ventilated, and in a high degree unfavourable to health. Some are found underground, either in the basement of a house, or built like a large kennel in a small enclosed yard, and are such as no domestic servant would inhabit. A very few have been built as workshops for this or some other occupation, and have large rooms, with an abundance of windows. Some consist of a whole house with the walls

Hatters, Glovers.

on each floor removed, a well staircase occupying the centre, and skylights placed in the roof of the upper room; others are simply rooms on the upper floors of the premises, and others, still, are single rooms, built in the rear of the premises, and lighted and ventilated from the roof only.

"In exceedingly few shops have there been any attempts at ventilation, except through the windows placed at the sides or in the roof; but in some, air bricks have been inserted into the wall, or a tube, with perforated zinc placed in its upper edge, and communicating by the end with the outer air, passes through the room, or tubes of various kinds pass perpendicularly from the floor to the roof. The ventilation through the windows is practically inefficient, since, when it occurs only through a moderate opening in the skylights, and the doors are kept shut, the interchange of air is but small, and when through a large opening in the skylight, or through side windows placed near the operatives, the draught cannot be borne, and some of the operatives insist upon their being kept shut. Such rooms are necessarily warm; but when the gas is lit, as during the day time in foggy days, and at night during the winter, the heat increases to 80° and even to upwards of 90°, causing profuse perspiration, and condensation of vapour upon the panes of glass, so that it runs down in streams or drops from the roof, and the operatives are compelled to keep some windows open, at whatever risk to themselves of taking cold."

Overcrowding.

240. The overcrowding is great even in "some of the most important west-end shops," of which Dr. Smith gives several particulars. The full force of the following remarks by Dr. Smith will be seen by comparison with the amount of cubic feet of space per head considered necessary by the medical officers of health, in London, for common lodging houses; namely, 300 cubic feet (p. L. of our Second Report; and sixth Report of the Medical Officer of the Privy Council, p. 529); while in places where persons are engaged in sedentary occupations, Dr. Sutherland states that not less than 500 feet of active ventilation per head should be allowed (*ibid.*).

"The amount of overcrowding will be properly estimated when it is known that the largest cubic space in these ill-ventilated rooms allowed to each operative and the gaslight is 270 feet, and the least 105 feet, and in the whole average only 156 feet per man. In one room with a gallery running round it, and lighted only from the roof, from 92 to upwards of 100 men are employed, where a large number of gaslights burn, and where the urinals are in the closest proximity; the cubic space does not exceed 150 per man. In another room, which can only be called a kennel in a yard, lighted from the roof, and ventilated by a small skylight opening, five to six men work in a space of 112 cubic feet per man. Such a state is, so far as my inquiries have yet extended, without parallel in workshops in other trades. As it exists in some of the best houses, men of good moral conduct and character must be found there; but my observation has led me to the belief that in the worst ventilated shops the men employed are of inferior moral character, and that the steady and respectable men avoid them (sixth Report of Medical Officer of Privy Council, p. 420)."

Recommendation of Second Report applicable to this case.

241. There appears to be every reason for applying to this case, as to the bootmakers, the recommendations above referred to in regard to "Private Houses," in s. 465 of our Second Report.

Hatters.

242. Of hatters there are rather less than 2,000 under 18 years of age in England and Wales (N. 2).

Conditions the same as those of the bootmakers and tailors.

243. They usually commence work at about 11 or 12 years of age. They are employed, as the bootmakers and tailors, in large factories, in small workshops, and at home (N. 65). The "shops" are for the most part very close and ill-ventilated, many much overcrowded, especially in the busy time; some are extremely and unnecessarily dirty; and in others "the heat is very oppressive" (N. 75). The hours of work are "in the busy "season," which in London "is said to last for five months in the year," often long, "steady men working from 8 a.m. to 10 p.m.;" but others "till 11 and 12 at night." Mr. Lord states, "that in some well-regulated factories it is rare for work to be prolonged "beyond 13 hours a day in the busy time" (N. 77). In one factory, that of Mr. Hall, where the limit had been reduced, they found, according to the usual experience, more work done in 13 hours than was the case when they kept their "shops" open two hours later (*ibid.*).

Meal times. Same legislation applicable.

244. The meal times for the boys are apt to be irregular and curtailed (N. 81). The conditions, therefore, being the same as those of the employment of boys and youths by bootmakers and tailors, we recommend that they should be included in the same measure of legislation.

Glovers.

Same legislation applicable.

245. The above remark applies also to the boys and youths employed by the glovers. The numbers under 18 years of age in England and Wales is about 1,000 (N. 2), but as they begin work at about 10 years of age (N. 86), are in some places liable to overhours, and to work in places where "the heat is at times very great," and in others which are "very small and close" (N. 91, 92), the same legislation is applicable as to

the three employments last dealt with. The total number of females employed in the glove trade, and included in the recommendation of our Second Report, was 23,605 of all ages (s. 414), making with the males, stated above to be about 1,000 under 18 years of age, a total of about 24,000 males and females in the glove trade who would be included in our recommendations. THE PAPER MANUFACTURE.

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246. The census returns for 1861 do not afford the means of ascertaining the numbers employed in the manufacture. The estimates given by Mr. Lord in ss. 1 and 2 of his Report (O. page 142) lead to the conclusion that the numbers employed in the United Kingdom amount to about 100,000. Estimated numbers employed.

247. The returns received by Mr. Lord were from mills of various character, and in many parts of the kingdom; they may, therefore, be taken to represent the trade generally. They show that out of the total numbers employed about half were females, and that of the females just one fourth were under 18 years of age, of whom about one in six was under 13.

248. If this rule be applied to the presumed total numbers of females employed in the United Kingdom it will give 50,000 as the number of females employed, of whom about 2,000 will be under 13 years of age, and 10,000 between 13 and 18. Number of females.

249. In nearly all the mills visited by Mr. Lord, "whatever the kind of paper "manufactured, there were some boys under 13 years old, but only two or three had "more than 12 such, and few more than six" (O. 5). It follows from Mr. Lord's returns, and the estimate founded on them of the totals in the trade, that the total number of boys under 13 in the trade is about 500, and the total number of youths between 13 and 18 somewhat under 10,000. Boys under 13 few. Youths between 13 and 18.

250. The various processes in the manufacture of paper may be described generally as follows (Ure's Dictionary of Arts and Manufactures, 1861, p. 391); The processes of the manufacture.

1. Sorting the rags.
2. Cutting rags and other materials.
3. Dusting do.
4. Boiling.
5. Tearing or macerating.
6. Paper making.
   By hand.
   By machine—mills.
7. Paper cutting.

251. In the five first processes women and girls are chiefly employed; in the two last, men, youths, and boys. These and the few other subsidiary employments are well described by Mr. Lord in the fourth division of his Report, ss. 17, 34.

252. The conclusion to be drawn from Mr. Lord's report and the evidence attached to it can be no other than that the paper manufacture is among those in which the persons employed may expect to derive the greatest benefit from the application of the general principles of the Factory Acts Extension Act. The only question appears to be as to the modifications that may be requisite to meet the peculiar conditions of the manufacture. Mr. Lord's Report shows that it should be placed under the Factory Acts Extension Act.

253. The points upon which the evidence leaves no doubt are the three following: The only question is, what modifications are requisite as to the hours of work for youths, and as to meal times.

a.—The State of the Places of Work.

254. These are thus described by Mr. Lord (O. 12).

"Some paper mills are very commodious, airy and clean in all departments; even the dust of the 'devils' being at all events reduced apparently to its minimum by means of fans, boxes, &c. Others, especially those of an older date, are very much the reverse; close, crowded, dirty and hot; contrivances to get rid of the dust in the chopping rooms, or of the steam in the making rooms, being either wholly inefficient or wholly neglected. In several places where news and other printing paper of a common kind was made, the dust was positively unbearable, the whole room being filled with a cloud so thick, that I could scarcely see the features of a person 20 feet from me."

255. It appears (ss. 14–15) that the difficulties in contriving proper ventilation under the circumstances are not great, and that there is no reason why the clause of the Factory Acts Extension Act which requires that "every factory should be kept in a "cleanly state, and be ventilated in such a manner as to render harmless, so far as is "practicable, any gases, dust, or other impurities," &c. (Clause 4) should not be successfully and very beneficially acted upon in this instance.

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b.—Fencing dangerous Machinery.

256. Mr. Lord states (O. 63) that he has seen shafts and driving straps in very dangerous positions; that serious accidents occur from horizontal shafting along the floor, and unfenced cog-wheels, especially where women work; that although crinoline and loose blouses or aprons are forbidden in some mills, several deaths and other injuries had been mentioned to him as having arisen from exposed machinery; and that although accidents are said to be much less frequent than they were "there is no doubt that "injuries of a more or less serious kind occur with sufficient frequency" to justify the conclusion that "fencing" machinery is as necessary in paper mills as in print works (O. 3).

c.—Education.

257. Although it has been shown above that few children of either sex in this branch of manufactures would come under the half-time system, still the deficiencies in general intelligence, and in the most rudimentary knowledge, exhibited throughout the evidence by many of the children found at work, make it manifest that to whatever extent the education clauses of the Factory Acts might take effect they would be beneficial. The objections of one or two of the witnesses, that in country districts with a scattered population there is sometimes no school within reasonable distance (o. 157) is not valid, inasmuch as such cases are provided for by ss. 38 and 57 of the Factory Act, 7 & 8 Vict. c. 15. Where so small a proportion of those under 18, of both sexes, are likely, as in this manufacture, ever to come under the half-time system, it is all the more to be desired that employers should encourage the attendance of the young at evening schools, if they are to be raised above the intellectual condition described by Mr. Lord (O. 81–84), which although "rather higher than the average found in some other employments" is still manifestly very low, and in no degree attributable to the poverty of the parents (O. 84).

258. The two points on which it may reasonably be urged that modifications of the regulations of the Factory Acts may be conceded, are—

I. The hours of work.

II. The regulation requiring children, young persons, and women to take their meals at the same time, and forbidding meals to be taken in any room where any manufacturing process is being carried on.

I.—*The Hours of Work.*

Day work the rule in the manufacture of hand-made paper in most of the processes.

259. In the manufacture of hand-made paper, in all the processes of sorting, cutting, paper making, rolling, glazing, and paper sorting, day-work and 12 hours are the rule. The exceptions are, occasional day and night shifts in paper making, and frequent night work in the "preliminary washing, beating, and grinding of the material." Overtime, although limited to the day time, is frequent in the processes of rolling, glazing, and paper sorting (O. 35–37).

Night work and overtime in some of them.

260. In the manufacture of machine-made paper night work is the rule in all the processes, except that of paper sorting (*ibid.*) and even in this it occurs occasionally (O. 49).

261. The night work in this manufacture is conducted under peculiar arrangements.

In machine-made paper night work the rule.

How conducted.

262. In some cases it is continued by relays without cessation through the week, usually from Sunday night to 12 on the following Saturday night; the change from the day to the night set being effected "by those in the day turn, working 5 days of "12 hours, and one of 18, and those on the night turn working 5 nights of 12 hours, "and one of 6 in each week" (O. 38).

263. In other cases "each set works 24 hours consecutively on alternate days" (O. 39), one set working 6 hours on Monday and 18 on Saturday to make up the 24.

264. An intermediate system prevails in some instances by which "those at the "paper-making machines attend for a working day of 15 or 16 hours duration every "day in the week," a system which, Mr. Lord remarks, seems to combine all the evils "of both the 12 and the 24 hours relay" (O. 40).

265. Both children, young persons, and women work under each of these systems.

Overtime where the 12 hours relay prevails.

266. Occasionally, though rarely, under the 12 hours relay, a youth, in consequence of the absence of his mate may have to work a double turn of 24 hours (O. 45). But the cases appear from the evidence to be of frequent occurrence in which both boys and girls make many hours of overtime, extending, in some instances, in the case of boys, to 24, and even 36 hours of consecutive work (O. 45–49).

267. In the "continuous and unvarying work of the glazing room" girls of 12 are found working for a month together 14 hours a day, "without any regular relief or cessation beyond two, or at most three, breaks of half an hour each for meals" (O. 51).

268. Where night work has been abandoned as "is now wholly the case in some mills," it has, "in some instances led to a great increase in the amount of overtime" (O. 54); and that often in the dirtiest, and in the hottest, and in the most monotonous of the various processes (*ibid.*).

269. When it is considered that these long hours of work for children, young persons, and women take place partly in rooms the atmosphere of which is loaded with dust, partly in other rooms in which the thermometer, even "in the best specimens" which fell under Mr. Lord's notice, stood at 90°, and in hot weather at 100°, "in the comparatively cooler parts of the room" (O. 13, 170), we apprehend that no further description of the conditions of work for females and for the young in this branch of manufacture is necessary to show that legislative interposition is required to bring the hours of labour of those persons into as near conformity with the hours of the Factory Act as the circumstances of the case admit. The evidence collected by Mr. Lord, and the exhaustive summary given by him in his description of the influence of the employment on the physical and on the moral condition of those engaged in it, together with the Report and evidence of Mr. Longe on the same subject (P. p. pages 178–180) will be found amply to justify this conclusion.

270. The following evidence comprises the opinions most favourable to legislative regulation, and to the adoption of the Factory hours.

271. Mr. Hayes, of Hemel Hempstead, a maker of superfine paper only, states (o. 152),—

"For my own part I should be rejoiced if night-work could be done away with, not on account of the men, for their health is very good; and where only men work there is no objection on moral grounds, but simply on account of the immense anxiety it occasions to the employers. I have myself to be constantly on the watch, staying up till 1 or 2 A.M., or getting up at 3 or 4 A.M. for fear of accidents or damage. I must admit that we have never had any accident at night, and we have had some in the day; but still I think night-work dangerous and scarcely profitable."

272. Mr. J. MacMurray, of Wandsworth, a maker of only news and general printing paper, states (o. 108),—

"I must say for my own part that I very much dislike and disapprove of this night-work. It is not that the physical effects are bad; at all events out people are all wonderfully healthy while they are working for us; but I think the moral effect is by no means good. So far, indeed, as the working of the two sexes in the same room at night, we have been very fortunate; but from a social and even a sanitary point of view, it operates badly, and this more on the families of the men than on the men themselves. It frequently happens that all or most of the members of a family work for us; some being on in the day and some in the night; the consequence is that one is no sooner out of bed than another gets into it; that is most unwholesome. Then, again, the girls here often marry the young men whom we employ, and remain in our employment; they have no time for domestic duties, so that their rooms are rarely cleaned, and if not overcrowded by their own families, they make them so by taking lodgers; of course other people than paper-makers have dirty and overcrowded dwellings; but these are in a special way, as it were, tempted and almost forced to do so. I notice the bad effects in the pale, sickly faces of the children who bring the food here sometimes for their parents or elder brothers or sisters.

"Besides this, the men themselves have no time for education and self-improvement, while for the younger ones it is far worse; they have not even time for play, which they want as much as learning, or they take it out of the time for eating and sleeping; but they ought to have time for all these. Here is one instance; that young woman who is 'catching' there cannot read.

"The fact is, people ought to be made to have the day for work and the night for rest. My own conviction is, though I believe that very few employers in our trade agree with me, that if a general act were passed to prohibit night-work altogether for male adults as well as for women and children, it would be a benefit to the trade; the quantity produced would be lessened, and their prices would rise, or more capital would be invested and plant laid down. Foreign competition then, no doubt, enters into the question so far as certain classes of paper are concerned; but I think that is more used as an argument than feared as a danger.

"No doubt also there is loss from stopping, or rather from starting afresh; waste both of fuel and material. After we shut down on Saturday everything gets cold by Monday morning; we do not work out the contents of our troughs, but leave them, as they happen to be, till the Monday. There is the extra consumption of fuel before the whole gets into working order; the contraction and expansion of the cylinders, boilers, and other parts of the machinery, which actually injure the latter, and, in the first-mentioned case, by altering the speed of revolution, cause the greatest trouble; thus the consequent waste of pulp and the amount of bad paper made at starting are astonishing. I assure you our trouble every Monday morning is nearly enough to drive one cracked; and if I were not here from the very first at midnight, and constantly looking after this one or that one till we are fairly started, I think we should never get off at all. However, in 12 hours they would not get so cold as they do in 24, from Saturday night to Sunday night. Some time ago we had to shut down repeatedly for eight hours at a time for several weeks, and never had any difficulty in starting after that interval.

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"With regard to health, I am often surprised at our men; some who have been 14 or 15 years here have not been absent for a day from illness or holidays. But I am very strict; no beer is allowed here on any pretence, and no irregular person stays with us. At the same time I am not so sure that we are right in inferring that the night-work does not hurt them because they are apparently strong and healthy now. It is all very well so long as they are young; we don't notice how it happens with them as they get old. It is more than probable that there comes a time, all of a sudden, when they go down like a shot, because they have been living unnatural, artificial lives, and have no real strength to resist disease or decay."

273. Mr. Allnutt, junior, maker of coloured and fancy papers only (not tissue) for covers of publications, albums, cheques, and the like, states (o. 55),—

"We have no need to work at our paper-making machine longer than from 6 A.M. to 6 P.M., for in that time we can work up all that our beating engines can do in the 24 hours. Our machine does not work very fast; some kinds of paper may be made three times as fast as ours.

"If we had twice as many beating engines as we have, and wished to keep them all going without having any more paper-making machines, we should have to work the latter day and night also. Night-work at making paper is a mere question of the proportion of beating engines to paper-making machines. My father has always had a strong dislike to night-work; the men get sleepy and careless; and as a consequence the loss from damage to material or to gear, which probably would not have happened in day time, is considerable.

"Our cutting machine, and even our drying cylinders are separate from the machine where the paper is made. We can always cut at this machine in 12 or at most 13 hours as much as all our machines make in the day. The cylinders ought not to be away from the other part of the machine, but we were forced to make the best of the premises which we had."

274. Mr. J. B. Green, maker of paper by hand, chiefly bank notes, cheques, and similar kinds, states (o. 70),—

"The length of hours is caused by our having only one pair of glazing rollers; we ought to have two."

275. So also Mr. Busbridge, of East Malling (o. 48),—

"One cause which to some extent necessitates working in the machine room beyond the usual hours is that our pulp must be worked out in the day, which our rag engines produce in the 24 hours, or else the supply would accumulate and be in excess; and the time for working the stuff produced will, of course, depend on the thinness and the making width of the paper on which the machines happen to be engaged, the engines for producing pulp being inadequate to supply quantities for keeping the machines continuously at work for 24 consecutive hours."

276. But even those employers who are most alive to the evil results of night work hesitate to acquiesce in its being put an end to by law, while by the trade generally such a proposal is looked on with very general disfavour (O. 86).

277. Mr. J. B. Green, above quoted, believes that the prohibition of night work "would be absolute ruin to many branches of the trade," and he suggests that it might be continued under a system of three shifts of eight hours each.

II.—*Meal Times.*

278. Another modification of the regulations of the Factory Act, if applied to the paper manufacture, is strongly urged in the course of the evidence, namely, the relaxation of the rule requiring the meal hours to be at the same time for all, and of the further rule that the meals should not be taken in any room in which any manufacturing process is then carried on. The following facts show that the necessary stoppages in the course of the various processes are so frequent, and to such an extent as to justify this claim on the part of the employers. They prove at the same time, and the summary of the evidence on the question of meal times given by Mr. Lord (O. 55-59) strongly confirms, the necessity of securing to the children, young persons, and women the full amount of the factory hours of meals, viz., an hour and a half per day.

279. Mr. T. H. Saunders, Dartford, states (o. 40)—

"The time consumed by necessary stoppages varies so much in different mills, and in the same mill on different classes of work, that it is impossible to give any average. With some papers felts are washed every week, with others every other day. We often don't change sorts for 48 hours."

280. Mr. Busbridge, East Malling, states (o. 48),—

"The machines are only worked by day, and not night and day continuously, so that it is very difficult to give a fair statement of the extent of their overtime; for although three boys are always in daily attendance at each mill in case that they might be wanted, it frequently happens that only one is actually at his place; the others may be reading, or cleaning up, or fetching the men's meals, or having nothing to do. The fact is, that in the machine and engine rooms of a paper mill the work is in no way continuous for man or boy, though they are paid for all the time during which they attend. For example, the boy Albert Smallwood appears from the wage book to have been paid since the beginning of this year for five weeks of 80 hours a week, one of 85, three of 90, two of 92, and one of 100; in others only 70, 60, or 50. Now, it is very probable that he has been at the mill when business has been pressing during 15 or 16 hours in the day, and paid for that time accordingly, but that does not represent the hours he was at work, for half the time probably he was not at work at all; and

when the machine is stopped, as it frequently is for repairs of one kind or another, and also to mend the felts or wires, or merely for changing sorts or sizes, he may help the man by fetching or carrying something, but otherwise would be resting." The Glass Manufacture.

"The last-mentioned cause of stoppages is one which affects mills that vary much in the kind of paper produced, and execute small orders or limited quantities of peculiar or particular paper much more than those who make nothing but news or printing paper for large orders or for a constant supply, and may work 48 hours and more without one change."

281. On this subject Mr. Thomas Wrigley, Bury, states (o. 159),—

"We could not manage so as to stop the machines for meal times; it would take at least half an hour to get the cylinders hot again if we stopped in the machine room. Besides the delay and loss of time, there is a positive loss in waste of pulp and broken paper. Whenever from any cause, as it is, a paper machine has to be stopped, all the pulp must be washed off the wire, and the wet sheet scraped off the roller, and the sheet upon the cylinders breaks; then in starting afresh the pulp has to be led by the hand on to the wet felt, and thence again to the dry felt and through the presses. Again one uniform heat can be easily maintained, but is difficult to be got at once; if the cylinder is too hot, the paper snaps; if too cold, it is damp. We have 11 paper machines, and each machine has from six to eight cylinders; in other places each may have 10 or 12, and more; all the cylinders must be at exactly the same temperature before a perfect sheet can be made. At least a quarter of an hour is lost, and a corresponding quantity of paper spoiled every morning by each machine before they make a fair start. Even in the meal gathering up after a breakage, while the machine is going all the time, 30 or 40 feet will be destroyed. I am not able to give you any satisfactory estimate of the value in money of the loss which stoppage for meal times would involve; it would be very considerable."

282. The opinion of Mr. Horrocks (o. 170) that they could adopt Factory regulations, "meal times and all," is shown by the postscript to s. 181 to apply to an exceptional case in the trade.

283. With regard, therefore, to these two questions of the prohibition of night work and the regulations of the Factory Act in respect to the meal hours, it may be taken as true as to the former, that, in the words of Mr. Allnutt and other witnesses (o. 55), night work at making paper is a mere question of the proportion of beating engines to paper-making machines, and that it might be obviated in that process by a larger outlay of capital; also that in the other processes the objects might be obtained by an extra expense in an increase of machinery and of wages. But it is manifest that under the present circumstances of the paper manufacture, however individuals might be able to meet such additional outlay with profit and advantage, it would be inexpedient to place a strain to that extent upon the trade. We are of opinion that the circumstances of this manufacture would be sufficiently met by the following measure.

284. This manufacture to be placed under the Factory Act Extension Act, subject to the following exceptions: Modifications recommended.

1. Youths between the ages of 16 and 18 may be employed at night, but only in shifts of eight hours each, beginning respectively at 6 a.m., 2 p.m., and 10 p.m.
2. So much of the Factory Acts as relates to the taking of the meals at the same time, and to the prohibition of meals being taken in any room where any manufacturing process is then carried on, not to apply to the paper manufacture; and so much of the said Act as requires one hour and a half to be assigned for meals, not to apply to youths who work in eight hour shifts. Youths who work in eight hour shifts to have half an hour for meals before the end of the first five hours of work (13 & 14 Vict. c. 54. s. 2).

285. These modifications accord in principle with those conceded in the case of the lace manufacture, and also temporarily in that of the paper stainers, to which the case is very analogous; but it appears to us that the nature of the processes in this manufacture require the modification as to meal times, as well as in regard to the employment of youths between 16 and 18, to be permanent.

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286. The manufacture of glass consists of the following principal departments:— Departments of glass-making.

Plate.
Crown.
Sheet.
Flint, and
Bottle-glass.

287. The manufacture of *crown glass* is gradually dying out, being superseded by sheet and plate glass, the production of which has very greatly increased since the abolition of the excise duty on glass in 1845. The manufacture of *plate glass* was first introduced into England in Lancashire in 1771. To Mr. Chance, of Birmingham, and Mr. Hartley, of Sunderland, we are indebted for the introduction into this country of the manufacture

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of *sheet glass*, which may be said to have given a new feature to our public and private edifices (q. 237). The process of Mr. Chance was perfected in 1838. The manufactory of Mr. Hartley, of Sunderland, produces nearly one-third of the sheet glass made in England.

288. *Flint glass*, the "crystal" of the ancients, is supposed to have been made in this country at and near Newcastle-on-Tyne, as early as 1616. The manufacture is divided into two branches:—

Blown, made by manual labour.
Pressed, made chiefly by machinery.

Distinction between glass making and glass-house work.

289. *Glass bottles.*—These can be made wherever lime and sand are found (q. 237), in places of work varying from the largest scale (q. 177–214) down to some purely domestic (q. 124, 125).

290. In completing some kinds of glass for use, as in polishing and cutting up plates or sheets of glass and "cutting" or ornamenting flint glass, an entirely distinct class of labour is used, and in work places more or less separate (Q. 14). This distinction between glass "making" or glass-house work, and subsequent processes, has an important bearing upon the questions about to be submitted for consideration.

Numbers of children and young persons employed.

291. The returns obtained by Mr. White of the number of children and young persons employed in the above branches of the manufacture, with his estimates thereon, checked by the census returns of 1861, afford the means of making a very close approximation to the exact number, which will be arrived at by adding to Mr. White's Table (Q. 31) three-fifths of those in the census table as between 10 and 15, and 15 and 20 respectively, for those employed in Lancashire (Q. 32, 33). The total number therefore of children and young persons of both sexes employed in the glass manufacture will be as follows:—

	Children, Male and Female.*	Young Persons.†
According to Mr. White's Returns and Estimate (Q. 31) - -	780	2,473
Add for Lancashire (Q. 32) - - - - -	261	420
	1,041	2,893
Total Children and Young Persons - - - -	3,934	

* Nearly all males. † About nine-tenths males.

Females above the age of 18.

292. Of females above the age of 18, there are employed in this manufacture, in England and Wales, according to the census of 1861, about 1,600 (Q. 32). If to these are added the females above that age employed in the glass works of Scotland and Ireland, the total number of children, young persons, and women engaged in the manufacture in the United Kingdom may be stated at a little above 5,000.

Age of children and young persons.

293. Mr. White states (Q. 23) that the age at which the youngest children usually enter glass works is from 9 to 11; in most instances "the mass now at work are over 10." In Messrs. Chance's works, Birmingham, "there is a rule against any boys being employed "under 12;" and Messrs. Pownall, a leading London firm, "have for many years "enforced a rule against employing any under 13." Several other masters have a "dislike to boys below those ages." In flint glass cutting-shops "boys do not begin "younger than 12, and usually 14, except a few who come as mere attendants" (*ibid.*). Nearly the whole of the children are males (Q. 31). Of the young persons employed about nine-tenths are males (*ibid.*).

State of places of work.

294. The state of the places of work occasionally renders the labour of the boys unnecessarily irksome. In consequence of the faulty arrangements of furnaces and kilns they are sometimes placed literally "between two fires." Some flint and glass works built "with the old construction of cones" are also very hot. There are frequently strong draughts close to where the boys work, bringing a large amount of dust, with which their faces become begrimed. The new houses, especially those at the largest manufactures, are comparatively cool, airy, and clean (Q. 39, 41).

High temperature.

295. In some work, as in crown and sheet glass-houses, the boys are "almost permanently "in a high temperature;" the hottest being that of pushers in crown glass-houses, and of shovel-holders in sheet glass-houses, "work done by the youngest boys." Mr. White says, "The heat in which the little shovel-holders stand is very great, at first I could "hardly bear to go up and stand in their places" (Q. 46). In one case Mr. White found the thermometer, held close to the boy's head, to be 130°. Mr. White adds that while he was standing near for that purpose, his hat, both crown and brim, melted so out of

shape that it was unfit to wear until restored by a hatter (*ibid.*). In a flint glass-house, his thermometer at the mouth of a kiln where boys put in articles to anneal, "standing "there, however, each time only as they set down the articles," rose quickly to the top, viz., 150° (*ibid.*). In bottle works the kilns or "arches" are ovens, "much like large "ovens in a wine cellar" (Q. 47). These are entered by boys to remove the bottles. The heat was found by Mr. White to vary from 106° to 120° (*ibid.*) A boy, 11 years old, "a taker-in" on being asked by Mr. White how the hair on his forehead got singed so, said "It's the heat of the arch, sometimes it swinges my clothes too, if the wind "draws much" (q. 213). THE GLASS MANUFACTURE.

296. Of these arches Mr. White speaks as follows (Q. 48, 49):—

"The arches have no communication with light or air except the openings, sometimes a door, sometimes a mere hole, which must be climbed through, through which the bottles are taken out. From this cause, and from the fire which has been for some time previously burning in the arch to heat it, the air no doubt, as I was informed by a medical gentleman that it does, becomes deficient in oxygen, and therefore more exhausting to work in.

"I consider that arches are places altogether unfit for girls to work in, or for young boys, at least, for more than a very limited period. It is, indeed, only in some cases that drawing forms more than a portion of a day's work. 'It would not be at all healthy.' Would be 'quite improper,' says the manager of some large works." (No. 183.)

297. In many cutting shops in flint-glass works attention to ventilation and cleanliness is much required. "Putty powder, of which lead is the chief ingredient, is used in two of "the finishing processes," and flies off plentifully. "A certain amount of sharp particles "are also thrown off from the glass, which also contains lead, and from the stones or "cutting wheels themselves, of which one kind consists of discs containing lead" (Q. 57). The sheds also in which boys grind, and those in which women and girls smooth plates or sheets of glass are "in some cases sloppy from the water used in these processes," a defect which could easily be removed (Q. 54). "Owing chiefly to the above causes "flint-glass cutting shops are generally regarded, both by employers and workmen, as "much less healthy as work places than glass-houses are" (Q. 59). Ventilation and cleanliness required.

298. Such being the ordinary state of the places of work as regards temperature, ventilation, and cleanliness; the amount of work done by boys, youths, girls, and women in the course of their daily or nightly spell of labour is certainly extraordinary. Amount of work done by boys in these places.

299. The arrangement of the work between the men and the boys in the glass-houses is thus described by Mr. White (Q. 61–63):—

"In all glass-houses men and boys work in sets. In flint-glass houses the set, or 'chair,' as it is called, consists usually of four persons, viz., the head man, or 'workman,' the second, or 'servitor,' the third, or 'foot-maker,' and the fourth, or 'taker-in.' Of these, the taker-in is nearly always a boy, and usually under the age of 14 or 15; the foot-maker, sometimes a boy, and sometimes a man, but nearly always over the age of 14 or 15; the servitor is occasionally, but very rarely, a boy; and the workman nearly always a man of full age. In some kinds of work the set consists of more hands, and in pressed flint-glass work another young boy or two is usually wanted. In inferior kinds of work in smaller places the set consists of fewer persons, say, two men and a boy.

"In bottle-glass houses the set, or 'hole,' as it is called, from working at the same hole or mouth of the furnace, consists usually of five persons, viz., the bottle maker, or finisher, the blower, the gatherer, the putter-up, and the taker-in. Of these, the last is a boy of the same age as in flint-glass houses, the putter-up, a boy rather older, the gatherer, a boy or youth, and the two top hands nearly always men. Each furnace has several holes or mouths, usually only one to each pot. The common number of pots to each furnace or house is four, in some six.

"In other kinds of houses the proportion of boys is much smaller, and they are more strictly mere helpers."

300. The greater part of the boys' time is spent in carrying glass to and fro to the annealing kilns, in carrying and clearing the men's irons, and helping them in various ways. The boys' attention is constantly kept up, and they are in "almost constant "motion." But, apart from the bodily exertion in lifting and carrying, "the mere distance "travelled in a day's work is surprising" (Q. 68, 69). This amounts, in bottle and flint-glass houses, according to Mr. White's careful inquiries, from an average of 15 and 16 to nearly 20 miles in their "day" of 6 hours (Q. 70, 71).

301. The other department of work in which boys are employed, as described (Q. 73, 80) are both laborious, and often in a very high temperature, and such as to cause "a "severe strain on the bodily powers of young boys" (Q. 67).

302. "The hours of work in glass-houses of most kinds are very peculiar and varied; "being mainly governed by one common principle, namely, the length of time which it "takes to prepare and work out the given quantity of metal which it is found expedient "or practicable to manufacture at one time" (Q. 88). The "journey" in crown, sheet, and bottle glass-houses usually begins as soon as Sunday is ended. The working journeys take in sheet glass houses "from 8 or 9 to 10 or 11 hours; in crown houses an "hour or two longer, and in bottle houses from 9 or 10 to 11 or 12, and in some cases up Hours of work.

THE GLASS MANUFACTURE.

"to 14 or 15 hours" (Q. 91). "Hence these journeys fall in either the day or the night, "or more often partly in both, just as it happens, beginning after Monday at no definite "hour, but just when the metal happens to be ready for working." Most of the remainder of the time is spent in the preparatory process, including filling in the metal, founding, and settling (*ibid.*).

303. Mr. White observes (Q. 93) that as regards hours, each principal furnace is independent and complete in itself, as if it were a separate manufactory.

304. In these crown, sheet, and bottle glass-houses "it is said to be impossible to "secure any regularity as to hours," although uniformity is approached just in proportion as the establishment is in good working order, or the management efficient. But neglect or defects anywhere are liable to hinder the work (Q. 94).

305. In most blown flint glass-houses, however, there is a uniform system of work by relays or "turns" of six hours each, day and night, from the time of beginning to work the metal till the time that it is worked out, this taking so long a time that relays are necessary; on an average four days and four nights, usually beginning at 6 or 7 a.m. on Monday (Q. 96). In very small works the relays are of 12 hours (q. 85, 122–126, Q. 117.)

306. In pressed glass-houses in the north of England, two sets of glass makers work in relays in the same way, but in turns of eight hours instead of six (Q. 97).

307. Of the six hours relays Mr. White says that it is "unfortunate for the boys." (Q. 100).

"During the working part of the week six hours is the utmost unbroken period ever attained at any one time for rest, and out of this has to come the time spent in coming and going to and from work, washing, dressing, and meals, leaving a very short period indeed for rest, and none for fresh air and play, unless at the expense of the sleep necessary for young boys, especially at such hot and fatiguing work. If the usual week were extended to the five days, contemplated as possible (No. 96), this would take away some of the time which the boys now have for rest and play at the end of the week, while it increased their labour. Even the short sleep is obviously liable to be broken by a boy having to wake himself, if it is night, or by the noise if it is day." (Nos. 120–127.)

Abuses of boys' labour.

308. In addition to the average hours of work given above as those in the crown, sheet, and bottle glass-houses, another demand is made upon the boys in their being required to come one, or two, or three hours before the men "to get things ready for "them," and also to stay from a few minutes to half an hour after the men leave "to "clear up." This, Mr. White says (Q. 101), makes the boys' work amount generally to about 12 hours, or often to 13, 14, or even 15. In flint glass-houses, also, boys sometimes come half an hour before the men to get things ready.

309. On this flagrant abuse of boys' labour in connexion with such laborious work as they have to go through, and in such great heat, in the ordinary process of manufacture Mr. White observes that "there is nothing in what they do" in this extra time "which "could not be equally well done by men" (Q. 102.) It is satisfactory to find that this is so, because it appears that "if only this excess of the boys' work over the men's were "cut off," the difficulties would be "slight" in "restricting the work of boys in the actual "glass making" (*ibid.*).

310. It appears, also, that another abuse of the labour of boys exists in the crown, sheet, and bottle glass-houses, in the occasional practice of taking a boy from one house to supply the place of a boy wanted in another, "so that a boy has gone six journeys in "a week" (Q. 106). Many instances of a similar nature are given by Mr. White, in one of which a boy worked 36 hours together; in another case, "a boy 12 years old, who "works as a drawer in very large bottle works, from 5 or 6 a.m. till 6 p.m. had to 'take "in,' in place of a boy who was away, till 2 a.m., and then slept in the furnace till 5 a.m. "when his next day's work began" (*ibid.*). Where work is continuous, as in this manufacture, day and night, it is almost inevitable that instances of boys taking the place of others who are absent from various causes must be of frequent occurrence. More especially is this so in flint-glass works, in which the working of the metal goes on "uninterrupted" (Q. 108). In this branch Mr. White adds, "the length of time for "which some boys have to work is wonderful" (*ibid.*). And an "unavoidable opening" is given to this wherever boys work in night relays at all; there being also two strong inducements operating upon the boy to do so,—first, that his absence would throw out the work of the "chair," or set of men "with whom he works"; and secondly, that the money so earned is the only money he has for himself, except the few pence usually allowed him by his parents out of his wages (Q. 109).

"A single turn 'over' on the system above described involves 18 hours' consecutive work, followed only by six hours' rest for sleep and meals, and this subject to the other deductions noted above. (B. 100.) One or more turns 'over' are often made by a boy in a week, frequently three, sometimes more. A boy who has himself worked in this way 36 hours without going to bed, speaks of another who would work for 60 consecutive hours, come on a Monday morning, say, and work straight on to 'Wednesday

night without going to bed' (No. 69). Another has worked eight turns over in a week, which cannot imply less than 120 hours consecutive work, less two intervals of six hours each for rest. (No. 73 and note.) Another has worked as many as seven turns running, and five turns running 'often' (No. 74)." (Q. 110.) THE GLASS MANUFACTURE.

311. In the small flint-glass houses the effect is still greater. In these (Q. 111, 112):—

"Working the 12-hour turns, a single turn 'over' entails, of course, double the amount of work which it does in the six-hour turn houses, viz., 36 hours, and this is not unfrequently done. A man, now 36, who began the trade at eight years old, says, 'Many a time, even while I was a boy, I have 'been on 48 hours at a time, in those small places, till I could hardly hold my eyes open, and I have 'been that way so as I couldn't sleep because I was over tired. I was forced to do it' (No. 130). A boy when about 12 years old worked five turns, or about 60 hours, running, with a break of six hours, *i.e.*, from 7 on Saturday morning till 7 on Monday evening, making glass on the Sunday (not minding a furnace), except from 1 to 7 p.m., when he was fetched back just as he was getting to bed, a bigger boy having run home. On the faith of his expected Sunday night's sleep, he had spent his time in playing instead of rest. 'Didn't like it at all. Was so tired I could scarcely stand up' (No. 133). Another says, 'Have worked 36 hours together, *i.e.*, one turn over, but never more at any time. May 'do it twice in one week perhaps' (No. 131). A boy 10 years old has worked from 7 Friday morning till 7 Saturday evening—'Lay down a little on anything I could;' and at a former place often half turns over, making from 7 a.m. till 1 a.m. following, sometimes three times a week (No. 138). In all these cases of long hours it is important to bear in mind the amount of exertion noticed above as often required.

"In some of these small flint-glass works in London, boys 'stoke' or take charge of the furnace, with or without other work, for turns of 12 hours. At one place a boy had to do this besides his week's taking-on, in alternate Sundays, another boy taking the alternate Sundays, 'Got 1*s.* for it, and all my 'grub.' Another does it for seven nights, another for six" (Nos. 130, 131, 133, 136).

312. In plate and sheet glass grinding and polishing, Mr. White states that overtime is the rule, although not extreme in any one day; the day's work amounting, however, in many cases to 14 and 15 hours for months together (Q. 115). Overtime in the grinding and polishing rooms.

313. A consideration of the evidence in regard to meal times in the glass manufacture shows that in the great majority of cases in all branches of the employment, there is no real obstacle to the allowing children, young persons, and women proper and salutary intervals of rest required for meals. In a few of the departments of the manufacture the nature of the work interposes a difficulty, but not such a one as is insurmountable, either by better arrangements, or in extreme cases by the employment of a few surplus hands (of which there is a large number in the trade, Q. 156) to take the place of those who are resting for their meal time. Meal-times not observed.

314. And that these intervals of rest are more particularly demanded in the interest of the young and the feeble in this manufacture, cannot fail to have been observed from the facts already adduced in regard to the temperature in which the work is carried on, the extraordinary exertion required in so many instances, and the night work which is the common condition of the manufacture.

315. It is plain from the shifting nature of the turns of work that the ordinary regulations of the Factory Acts in regard to meal times are not applicable. But it may fairly be required that the principle involved in that part of the clause relating to the meal times which requires that, "No child, young person, or woman can be employed more than "five hours before one o'clock without an interval of thirty minutes" (7 Vict. c. 15. s. 36., 13 & 14 Vict. c. 54. s. 3.), should be applied to the glass manufacture, and consequently that intervals of half an hour, amounting in the aggregate to one hour or one hour and a half, should be secured to those persons according to the length of their turns of work. Certain intervals for meals should be secured for children, young persons, and women.

316. In the rooms in bottle-glass works where arsenic is used in mixing, in the mixing rooms of flint glass where lead is one of the materials, and in the flint glass cutting and polishing shops the meals should not be allowed to be taken (Q. 42, 43, 54–58, 162). Meals should not be taken in rooms where arsenic or lead are used, or in the polishing rooms.

317. In one instance quoted by Mr. White it appears that the men lie out by turns for their meal time, "but they do not give the boys that privilege." Doubtless such cases are not uncommon. That a single one should have been noticed is sufficient to suggest the need of securing for the weak what the strong take for themselves. And as to the possibility of some slight amount of loss arising from the necessity of giving to the boys, young persons, and women, the amount of rest that is their due for meal times, Mr. White makes the following important observations (Q. 125):— Need of intervals for rest or meals.

"A certain amount of heat beyond what is usual at present might also be going to waste," if meal-times were secured in these cases, "but it seems likely not equal in money value to the waste of animal power now going on in glass-houses throughout the kingdom from growing boys not having enough quiet time to eat their meals at ease, with a little rest afterwards for digestion. Anyhow, it cannot be doubted that glass-house boys undergoing such labour as many of them do, for their own well-being, imperatively require more or longer intervals in the course of their work than many get. Glass-house work requires a great amount of support'" (Nos. 59, 180).

318. That these united causes should have very bad effects on health, and also on the moral and intellectual state of the young might be anticipated from the description we Effects on physical and

THE GLASS MANUFACTURE.

have given of the general conditions of the employment. The evidence on these points, as summed up by Mr. White (Q. 146–180), is conclusive upon both.

moral condition.

319. On these as well as on all the other portions of the subject which we have dealt with above, the Report of Mr. White is so full and satisfactory and involves so much detail, that we have only thought it expedient to give by its assistance a brief outline of the facts sufficient to show the grounds on which the conclusions from the whole report and evidence rest.

Complete details on all points given by Mr. White.

320. We beg also in this place to direct attention to the short report and evidence by Mr. Lord (R. r., pages 266–277) on the glass works of Lancashire, as in all important respects coinciding with and confirming the facts adduced by Mr. White, and the conclusions deducible from them.

Mr. Lord's Report on Glass works in Lancashire leads to the same conclusions.

321. The protection of the Factory Acts Extension Act is manifestly required in this case, in reference, as has been seen, to the state of the places of work in a sanitary point of view; to the excessive and unnatural hours of labour, generally in great heat; to the absence of proper rest for the young during meal times; and to the improvement of the education of the young. It is also necessary in relation to the fencing of dangerous machinery (Q. 140), and for the purpose of requiring a medical certificate of physical fitness for work so laborious and exhausting (Q. 186), as ordered by the Factory Act for all under 16 (7 Vict. c. 15. ss. 9–15.).

Conclusions and recommendations.

The points for determination.

322. The very exceptional nature of the glass manufacture involving as it does many various and complicated details, makes it difficult to determine what the precise regulations should be in respect to the following points,—the age at which children should commence work; the extent to which the half-time system is applicable; and the age at which youths should be allowed to work full time.

Recommendations.

323. We are, however, of opinion that the evidence justifies the following recommendations, as securities against overtasking the strength of the young, and as extending to this manufacture the principle of the beneficent regulations of the Factory Acts, as far as the circumstances of the manufacture admit.

As to work *in* glass-houses:—

1. No female to be employed in any process of manufacture in a glass-house.
2. All boys to be excluded from working in glass-houses until they attain the age of 12 years.
3. From the age of 12 to the age of 16, boys and youths may work between 6 a.m. and 8 p.m., but not on the whole more than 12 hours in any one day, including intervals for rest or meals amounting in the whole to not less than one hour and a half (q. 233).
4. From the age of 16 to 18, youths may work between 8 p.m. and 6 a.m., but not more than eight hours, with intervals for rest and meals amounting in the whole to not less than one hour (q. 158, 163, Q. 187–189).
5. No youth between the age of 16 and 18 to work between 8 p.m. and 6 a.m. otherwise than in alternate weeks.
6. Where any accidental delay has occurred in any of the processes, boys and youths may be employed for any time not exceeding one hour after the hours above specified. (Q. 198.)
7. Boys and youths below the age of 16 employed in the "making" houses in glass works, to attend school for not less than nine hours in each week, at not less than three different school times, either in the morning, afternoon, or evening.

All other boys in glass works to attend school according to the regulations of the Factory Acts.

As to work *out of* glass-houses:—

The regulations of the Factory Acts Extension Act to be applied to the processes of grinding, polishing, and cutting plate and window glass, and to the cutting of flint glass, and to all the branches of work done in the course of the manufacture of glass out of glass-houses.

324. We believe that if these recommendations should be embodied in legislation, they would operate as satisfactorily as the regulations of the Factory Acts Extension Act have been found to do, in the case more especially of the potteries, and of the other branches of manufacture included in that Act.

Brick-making the only con-

325. Of the trades and manufactures which we mentioned in our Report of last year as then to be completed, the only one now remaining, of any importance, is that of brick-making, the inquiry into which can only be conducted during the long days of summer

and autumn. It will be completed in the course of this autumn together with a few other subjects of small extent which we found to require notice.

THE GLASS MANUFACTURE.

326. Our Commission having been recently extended to an inquiry into the system of organized labour in some parts of the agricultural districts, known by the name of agricultural gangs, we have taken measures for beginning the inquiry as soon as the gangs recommence their labours in the autumn.

siderable subject now to be reported on; except the agricultural gangs, to which this Commission has been recently extended.

327. We were deprived of the valuable assistance of our colleague Mr. Richard Dugard Grainger, by his death; but not until the work of the Commission had approached so nearly to its termination as to make it unnecessary for us to ask that his place should be supplied.

All this we humbly certify to Your Majesty.

(Signed) HUGH SEYMOUR TREMENHEERE. (L.S.)
EDWARD CARLETON TUFNELL. (L.S.)

2, Victoria Street, Westminster,
July 1865.

APPENDIX TO FOURTH REPORT.

REPORTS AND EVIDENCE

OF

ASSISTANT COMMISSIONERS.

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REPORT upon the METAL MANUFACTURES of the SHEFFIELD District, by Mr. J. E. WHITE.

To Her Majesty's Commissioners.

Gentlemen,

Metal Manufactures.

Sheffield District.

Mr. J. E. White.

A.

1. Steel remains, as it always has been, the material on which the chief manufactures of Sheffield mainly depend. Other materials are used, often more or less directly in connexion with, in some cases independently of the use of steel; but nearly all the important manufactures of the town, and those on which its reputation and prosperity rest, may properly be treated as falling under the head of "Metal Manufactures." Of the steel work, parts are of a kind which admit of being and are done in the country district for a few miles round, say, roughly, for five or six.

Steel the basis of the staple manufactures.

2. Beyond this limit, and yet within the far wider area of surrounding country assigned by you for my inquiry, as forming the Sheffield district, other manufactures are carried on. The chief of these is that of iron, which is carried on to a large extent in and near the town of Rotherham, and in iron-works scattered over the country for many miles to the north of Sheffield, and ending in the south in the neighbourhood of Chesterfield. Barnsley and its neighbourhood formed about my limit on the north. No other large towns than those named are included in the district.

Iron and other manufactures.

3. Of the population out of Sheffield, large numbers are employed in collieries, others in potteries and linen factories, classes of work already under regulation, and some in glass works, a subject reserved for separate treatment.

4. The above account of the manufactures of the district is only general, and will require some modification in detail. The large works in Sheffield deal with iron as well as steel; steel is in some cases worked at a greater distance from Sheffield than above pointed to; and there are some miscellaneous manufactures, *e.g.*, hair seating, paper making, and confectionery, as to which some evidence has been collected, but which need not be further noticed here.

5. Many of the manufactures remain the same in kind, and carried on upon the same system as at the time of the inquiry here under the former Children's Employment Commission, and then described. Two circumstances, however, in particular, have contributed to bring about great and important changes since that time.

Changes since 1841.

Metal Manufactures.

Sheffield District.

Mr. J. E. White.

A.

1. From the more general use of steel.

6. One is the very great increase in the use of steel for many purposes to which it was then but little applied. Formerly it was used chiefly for cutlery and cutting tools of all kinds and other smaller goods; now it is used also in heavier masses, and for many purposes for which iron was formerly employed, *e.g.*, ordnance, shot, railway wheels and rails. Large quantities are required for new trades, such as crinoline and steel-pen making, as well as for many other purposes which need not be enumerated.

7. This increase in the use and importance of steel seems likely to be carried to a far greater extent. It is to it that the great growth of Sheffield of late years in population and prosperity is probably to be attributed, Sheffield being the great, almost the only seat of the steel manufacture in the United Kingdom, and supplying steel productions very largely to other parts of the world.

Great growth of Sheffield.

8. The population of the borough of Sheffield, which includes, however, a populous country district, has increased from 110,891 in 1841 to 135,310 in 1851, and to 185,172 in 1861.

Great size of steel works.

9. The older trades seem to have grown but little in proportion, some not at all; but steel works of great size have sprung up. The steel works of one firm, exclusive of two sets of premises in the town, cover an area of 24 acres at a short distance from the town. Another firm are now building in the same neighbourhood steel works which cover 20 acres of ground. Two other steel works, where iron is also manufactured, cover respectively 13 and 15 acres, and employ 2,000 or 3,000 persons each.

2. From the increased use of steam power.

10. Another circumstance which in Sheffield, as elsewhere, has brought about an important change, is the increased use of steam power. This has had the tendency of concentrating in factories, some of considerable size, a large amount of work formerly done without power, and consequently in the homes of the workers and small shops. This is particularly the case in the cutlery manufacture.

But benefits of factories imperfectly realized.

11. The effect of this change, though to some extent the same as that arising from the substitution of factories in other seats of manufacture, is less complete. The workers even in factories keep much of the old independence of their masters, in fact, are more in the position of small manufacturers themselves; and much of the work still remains independent of the use of power, even where the workers, as in the case of cutlers, use it for some portions of their work. Thus, many of the advantages which might be thought likely to result from the supervision of a master over workers and their hours, and the state of their work-place, &c. are, unfortunately, often very imperfectly realized.

Opposition to extension of machinery.

12. Steam power could and no doubt would be still further applied with advantage in other manufactures of the district, were it not for the resistance which, it is feared, might be offered by the workmen. In the file manufacture, for instance, machinery is now successfully used abroad at a great saving of cost, and it has also lately been introduced near Manchester, but it is entirely excluded from the Sheffield district, in which the file trade is one of great importance, and has its chief seat. Should the machinery ever come into general use in the trade, *i.e.* so far as it is applicable, the change in this district would be very great, as the present hand labour of a very large number of persons of both sexes and all ages, the greater part of whom work in small shops in Sheffield and the country villages, would be, to a great extent, superseded by the factory labour of a smaller number.

Arrangement of subjects in the Evidence.

13. Though the manufactures of the district are far less miscellaneous than those of the Birmingham district, it is not easy to make a satisfactory classification of them. Very different branches of work are often carried on by the same manufacturer on the same premises, and different processes in the manufacture of a single kind of article are done in entirely distinct places and on an entirely different system. The arrangement of evidence which I have attempted is as follows:—

Grinders.

14. The grinders' trade, as carried on in Sheffield and its neighbourhood, is placed first, as being one of the greatest importance in several ways,—not only on account of the numbers engaged in it, but more especially on account of its serious effect upon their physical condition, and the apparent ease with which remedial measures might be applied. A few passages relating to this subject will also be found in the later portions of the evidence, from which they were not easily separable. The articles on which grinders work are very various, *e.g.*, knives of every kind, forks, razors, scissors, saws, files, edge and other tools, and cutting implements of all kinds, as well as larger surfaces, such as grates, fenders, &c.

Steel and iron, heavy and light.

15. Different branches of the general steel and iron manufactures come next, including articles of the heaviest and lightest kinds, which often cannot be separated. They embrace a very wide range of productions, from armour plate, ordnance, and the heaviest castings down to the finest file, or wire of almost imperceptible diameter.

Cutlery.

Narrow meaning of the word.

16. Cutlery, the manufacture for which Sheffield has been so long celebrated and is still probably best known, is of course an important trade. It is almost entirely confined to Sheffield. The word is used in Sheffield in a sense narrower than its popular and original one, being taken there to mean only the handling, making up, and finishing of knives, razors, scissors, &c., not the forging or grinding of the blades.

Bone, &c.

17. Cutlery and trades connected with or subsidiary to it deal largely with other materials than metal, *e.g.*, bone, ivory, horn, and wood.

Electro-plate, &c.

18. The electro-plate and white metal trade is one of the staple manufactures of Sheffield.

Sundry trades.

19. Brass founding and a few miscellaneous manufactures unconnected with the staple manufactures of the place are the remaining subjects.

Places, where.

20. Where a separate town or village is not put in the heading, the works named are in or close to the town of Sheffield.

1.—Ages at which Children and Young Persons are employed.

Few very young.

21. Taking the manufactures of the district generally, the proportion of children to adults employed in them is small. It is in few that they are employed to any great extent under the age of 9 or 10, but from this age upwards they are employed wherever light work, and in some cases work that is not light, can be found for them.

But some even at grinding:

22. It is common for children to enter upon one of the deadliest occupations known, viz., fork grinding as young as 9; most begin it at or before the age of 10; some as young as 8, or even 7. I found a

child of 6 years old in a wheel where he has worked for some months at other dry grinding for his father. In grinding of most kinds the usual age of beginning is from 9 to 13; a few begin rather later. Metal Manufactures.

23. Even such establishments, however, as the large iron and steel works, the former involving systematic night work, give a few instances of boys of very tender age. In some large country iron works I found two boys who came there one at 7 years old, the other at 8; in some very large iron and steel works in Sheffield a boy who came at 8 years old; and in some small steel works in the country a boy of 7, who occasionally does odd work there. The common age, however, for beginning in such works is from 10 to 12. Sheffield District. Mr. J. E. White. A. and in iron works.

24. But the employment in which most of the youngest children are found is cutlery. Girls as well as boys sometimes begin this at 7 and even 6 years old; and one boy whom I found at work had begun at 5. A woman who began cutlery herself at 6 years old, and put her "own lass, now dead, on at "three weeks turned 6," says "they lifted me up on a stool to reach my work, as I was not big enough "to get up myself." (No. 188.) The youngest at cutlery.

25. In most cases the youngest children are employed by their own parents or relations; often in consequence of the intemperate or improvident habits of their parents. Fault of parents.

II.—Sex. Number of Girls and Women.

26. Females are not employed at all in iron or steel works, strictly so called, or in grinding wheels. A few, however, are found in factories in which small steel goods, such as files, saws, and other tools are made; and a moderate number are employed in the warehouses of cutlery and other factories in finishing and wrapping up small articles. The warehouse employment, in many cases, involves actual manual work, essential to the completion of the article for sale, apart from mere packing. Females in factories, few;

27. Still there are few occupations in which females are employed to any large extent, but in some of these few the proportion of females is large. As regards occupations carried on in factories, these are chiefly the manufacture of plate of different kinds, crinoline, and hair seating; which latter, however, is now almost entirely confined to one large manufactory. excepting certain trades.

28. They likewise work at cutlery and file cutting in their homes or in small outshops, and at cutlery in small factories. Outshop and home work.

29. I have not the means of estimating the numbers of females employed in the different trades, but give a few instances. Their number in the file trade is put at from 500 to 600 from 9 years old and upwards; in cutlery at a few hundreds of like ages; and the number in warehouses of metal manufactories also amounts, probably, to some hundreds. One electro-plate manufactory employs about 300 females, most of them adults. The hair-seating manufactory employs nearly 300 women and girls from 9 years old upwards. Numbers in some trades.

III.—Number of Children and Young Persons employed.

30. The proportion of children to adults in works of any kind is small, and in the heavier kinds of work, as steel and iron works, the proportion of young persons is small also. But as far as I can judge, in these respects the census returns, which do not follow the many technical divisions of the trades, afford but a very imperfect guide; but so far as they go, it may, in my opinion, be safely taken that they fall below rather than above the numbers of the young actually at work in the staple manufactures of the district. As the conditions under which the manufactures of the district are carried on make it difficult to form any estimate by means of direct returns, I think it wiser to abstain from attempting to form any definite estimate as to manufactures generally. As to some trades, however, I am able to give specimens. Proportion small.

31. Thus the boys, *i.e.*, all under the age of 21 down to about 9 or younger, engaged in grinding were estimated in 1857 at about 1,850. The numbers in each branch of grinding are given in No. 2. About 500 children and young persons are employed at table knife hafting, and a larger though not very definitely given number (see No. 203) at spring knife cutlery, and several hundreds in file cutting. A large number of boys, which, however, I have no means of ascertaining, are engaged in rolling mills, both of steel and iron, and both in Sheffield and in country works. Numbers in certain trades.

IV.—Hiring of Children and Young Persons.

32. It remains, as it was formerly, the general custom for children and young persons to be employed not directly by the manufacturers, but as apprentices, or as servants to men who work by the piece or contract to supply the manufacturer with a given amount of work at a given rate. Where the men, however, are paid by the day, which is the case in some branches of work, boys are found in the direct service of the manufacturer. Generally employed by workmen.

33. The custom of apprenticing is stated to have much declined, partly in consequence of the growing wish of the young for independence, and partly of the efforts of the trade societies to limit the number of apprentices allowed in each trade. Large numbers of boys, however, are still engaged as apprentices, and formally bound, and are boarded, fed, clothed, and paid by their master. The trade rules often prevent a working man from taking more than one apprentice, but small masters, who are not bound by such rules, will often take more. When trade is bad, and the master falls into difficulties, the boy naturally suffers, and it is chiefly on this ground that complaints are made by apprentices before the magistrates. Apprenticeship.

34. Whatever be the age at which a boy is bound, even if he is only 9 or 10, he is bound till he is 21. It thus happens that in spring knife cutlery "plenty are bound from 10 years old till 21." Such a practice seems plainly undesirable. Long periods of ditto.

35. The practice of under-employment, though convenient to principals, tends here as elsewhere greatly to the prejudice of the young. If the principals paid the wages of each worker directly, they must know somewhere about the number of hours worked by each, and it is hard to believe that they Under-employment unfavourable to the young.

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would allow young boys to be kept at work for the excessive number of hours which they not unfrequently are. Nor would they probably engage boys so much below the ages which they consider right and suitable to the work as many boys on their premises are.

V.—State of the Place of Work.

The grinding wheels. Public. Private.

36. The places which from the nature of the work need the most care and attention to sanitary arrangements, and on which nevertheless the least care seems bestowed, are the "wheels" or buildings in which grinders work. These are sometimes separate factories or premises devoted exclusively to grinding, and sometimes form part of a manufactory in which other processes of manufacture are carried on. The former kind are usually what are called "public" wheels, owned by persons who take no concern in them beyond receiving the rent and supplying the power. In these, the grinders are quite independent of any control except that, for obvious reasons, power is scarcely ever supplied beyond the stated number of hours. The grinders rent their work-place and power, and find their own tools and implements. They also often work in what are called private wheels, *i.e.*, those within the works of a manufacturer, on much the same system, whole hulls or separate troughs, as the case may be, being let off to grinders. In some cases apparently men pay rent though doing the work of the manufacturer on his premises.

Construction unaltered since 1841.

37. The construction and internal arrangement of the wheels, with their division into workrooms or "hulls," and of these into "troughs" or the separate spaces occupied by a grinder and his assistant, and the manner of work, remain the same as described by Mr. Symons in 1841.

Number greatly increased.

38. Since that date, however, the number of wheels in Sheffield has greatly increased. It was then 50; in 1857, it was, according to an account then taken by Dr. Hall, 80; and, as I am informed, it is now considerably larger. They are worked by steam power.

Water power wheels diminished.

39. On the other hand, owing to the more general use of steam power, the wheels in the country near Sheffield, which were all turned by water power, have greatly diminished within the same period. In 1841 they were estimated at 40, and in 1857 at only 16. The latter, however, appears to me to have been much too low an estimate, as I have been in seven in one valley alone. Those in another valley, that of the Loxley, were all swept away by the flood of this year, 1864. There are still several others elsewhere.

Bad consequences of steam power.

40. The effect of the change from water to steam power has been to bring the grinders into more confined places, and in which the injurious effect of the work is much intensified by the greater amount of dust produced in a given space, and by the work becoming constant, instead of intermittent as is necessarily the case where only water power is used. The evil is increased by the loss of the exercise in the country air formerly enjoyed. Till steam power was introduced in the trade, towards the end of the last century, the grinder's disease was scarcely known.

Great want of ventilation; of light, and comfort:

41. Grinding, above most works, owing to the noxious nature of the dust produced, requires that there should be ample ventilation. I have rarely seen work-places in which it is less attended to, or in which, in the town at least, it seems so difficult to provide for it. The nature of the work and of the machinery required secures in all cases a fair amount of cubic space. But here all that can be said in their favour ends. They have windows only on one side; and in the town, where space is valuable, the work-rooms are built back to back, and floor above floor, the lower rooms being often vaulted to support the weight of machinery above.

42. The rooms or hulls are thus ill-lighted and gloomy; some which I have seen are quite unfit for use. In some the plaster is falling from the ceiling, in others wet is dripping from the floor above, and is sometimes caught by sheets of metal placed to protect the workers beneath. The glass is generally broken out from the windows, and purposely by the grinders to allow the dust to escape and to admit light, which the glass, covered by the dirty spray from the grinding, keeps out. This subjects the workers to draughts, and in winter to severe cold, ice sometimes forming on the stone if left for a short time. The dust also is thus blown back upon them. Some suggest that if the light and air were admitted from above it would be a great benefit, but in the town wheels, where several stories are used for grinding, it would be difficult to secure this.

of fans.

43. The great benefit of fans in protecting the workers from dust in dry grinding of every kind, indeed the absolute necessity of them for the preservation of health, is universally admitted. In many places fans are put up and used, but numbers of dry grinders, particularly fork grinders, who need them most, are without them, and some neglect to use them even where they are put up, thus injuring others, who work in the same hull, as well as themselves. I have not been able to ascertain the proportion of workers who do not use them at grinding dry, but from the evidence and from what I have myself seen, it is considerable. The expense alone cannot, or at any rate should not, be the cause of the neglect. A fan may be put up so as to protect several workers at the cost of a few pounds, *e.g.*, from 5*l.* to 10*l.*, or for much less, *e.g.*, from 30*s.* to 3*l.*, for only one. Where there are fans they are sometimes used by glazers and polishers as well as grinders. In the Hathersage needle and hackle pin manufactories precautions apparently as complete as is possible for protecting the grinders are used.

Wet and dirt.

44. The floors are often sloppy with wet, from which, as well as the draught and cold, the workers suffer. This is not necessary, and can easily be avoided by a proper construction of floors with drains, as is done in some cases. The amount of dirt thrown off from the stones in the shape of mud is very great. Any one who has not seen wheels would be surprised at the loathsome look of some places from this cause, and from the way in which the mud is shot down and allowed to accumulate in full sight outside. There appears no reason why cleanliness of appearance should not be more attended to, though that it is not is easily accounted for by the fact that, owing to the system above described, it is considered no one's business to see to it.

Cutlery and other workshops.

45. Some of the other workshops, especially those used for cutlery, are cramped and ill-arranged, and equally neglected with the wheels, but the dirt where dry is less objectionable to the eye, though probably not to health. The glazing of bone and other handles, &c. causes a great amount of dust. "The master does not have the shop cleaned. We are too tired (*i.e.* to do it ourselves). That heap of "bonedust in the corner (a bushel or two) has been gathering for many a week. It is three weeks

"since we swept the rest of the shop. The dust is swept into the corner." No. 188. By all appearances, cleaning, whitewashing, &c., are in general very much neglected, just as in the instance here quoted as a specimen.

46. Some of the work-places, however, which strike me as most objectionable, especially considering that the persons employed in them are usually young boys, are what are very properly called the "cellars" beneath the steel melting furnaces. These are vaulted passages beneath the furnaces and the level of the ground, reached from the outside by descending stairs, from which, and perhaps a grating at one side, the only daylight is admitted. Overhead along one side is the row of steel melting pots with fire beneath, causing considerable heat. Still this at any rate makes the cellars dry and warm enough, and though some of the work is heavy, the boys have much spare time. In one case, and that in works of about the highest standing in the trade, I found a young boy who works part of his time in one of these vaults and the remainder in a dark cellar beyond, lighted only by a dim oil lamp, and with no communication whatever with light or air except through the vault. His health had suffered considerably. Only one or two boys work in the cellar of each furnace. There are one or more furnaces, according to the scale of the works, in a few works a considerable number, but the number of "cellar boys" cannot in any case be great.

VI.—Nature of Employment.

All grinding noxious.

47. The employment of grinders is without question one which demands most serious notice. The evil public notoriety which "Sheffield grinding" has obtained is but too well founded. The process is so simple and so well known that it need not be described. Whatever be the branch of manufacture in which it is required, there is little difference which strikes the eye, except the greater or less size of the stones or of the glazing or other implements used, with differences as to the substance, dryness, &c. of their surface, and the greater or less degree of stooping over different kinds of work, with the fact that in some cases, as in saw grinding and glazing, the worker stands.

Unhealthy posture.

48. In most of the work he sits astride on a broad flat-topped horsing, too broad for young boys. One of the average kind which I measured was 14 inches wide. The body is sometimes thrown forward almost horizontally, but more often curved forward with the head down, and most so where the stone or wheel used is small, the work to which the youngest boys are first set.

"Grinding" includes other processes.

49. It is, however, I think, well to point out here that the term grinding, as used by the workers themselves, refers only to the process of shaping and smoothing metal by cutting it on a revolving stone. But in most kinds of work there are one or more subsequent smoothing processes, such as glazing on a wheel covered with emery, lapping on a wheel covered with lead, and polishing on a wheel with crocus powder, which form essential parts of the grinder's work, and are performed by him or his helpers in the same work-place, and usually in the very same trough. For practical purposes the kinds of work could not conveniently be distinguished. Their essential characteristics are the same, and the same person may be engaged in one or other process indifferently at different times of the day.

Great amount of dust.

50. But each kind of work varies in the amount and kind of the particles thrown off. The amount is greatest and most injurious in fork grinding and needle pointing. A needle and hackle pin manufacturer states that a 20 lb. packet of steel wire loses from 4 lbs. to 5lbs. in the grinding, and that his 23 stones thus throw off in a day about 75 lbs. of steel dust, and a far larger amount of stone dust. Another puts the loss of weight in grinding at 5 lbs. in 20 lbs. in average work, in some more. Thus at least 3 lbs. of fine steel dust, besides the larger amonnt of stone dust, is produced beneath the face of each grinder daily. This is all dry dust.

51. In the needle manufactories, however, most of this dust is carried away by a fan through pipes into the outer air. I smelt the dust from one such manufactory before I was within 70 or 80 yards of it, and though in an open field, and I could see the dust floating away like a cloud. It not only covers the roofs and windows on which it settles with a brown rusty coat, till in time the glass becomes obscured almost as if it were painted, but so corrodes them as to make the slates and even the glass crumble away. The dust collects in the flues, which carry it from the stone, in large black stalactite-like lumps. Two such were given to me weighing over 2 lbs. each.

52. Forks of an average kind lose about a fourth of their weight, all in dry dust. A dozen razors of two common kinds are respectively reduced by dry grinding from 2 lbs. to 1 lb. 10 oz., and from 2 lbs. 4 oz. to 1 lb. 15 oz. Razors lose a further amount on the wet stone. The dust of metal, *i.e.*, cast iron, used for cheap forks and scissors, is usually considered more "pernicious" than that of steel.

Dry and wet grinding.

53. The opinion of many persons that the universally admitted unhealthiness of grinding is properly to be attributed to only one branch of it, viz., "dry" grinding, *i.e.*, grinding on a dry stone, appears contrary to the facts. It is, however, only a very small portion of grinders who do not use the wet stone at all, *e.g.*, fork grinders and a few others. It is very few again who use only the wet stone, *e.g.*, file grinders. Most use both the wet and the dry stone and the glazing or polishing wheels, but in proportions varying with each kind of work.

"Racing," &c.

54. In all kinds of grinding it is necessary to "hew" and "race" the stones, processes which cause a great amount of dust, the latter especially, and to such an extent as to affect all the other workers in the place.

Fans not used in wet grinding.

55. Fans are never used for grinding on a wet stone. It is said by many that there is no need for them, and by all whom I have asked, that owing to certain mechanical difficulties of arrangement they could not be used. Intelligent workers, however, say that, if any such plan for carrying off the spray and dust which are caused even by a wet stone could be adopted, it would be a great benefit to the health. It seems plain that it would, for streams of sparks fly off from the wet stone as from the dry, and particles, I am informed, may, in a bright light, be seen rising upwards towards the wet grinder's face. This I never had a chance of seeing, the work-places being mostly so ill-lighted, and the smoke-loaded atmosphere in late autumn so murky and thick.

Might be used for all work.

56. There would be little or no difficulty whatever, so far as I can learn, in using the fan for all processes where the dust caused is dry, as in glazing and polishing. It is the opinion of thoughtful

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causing dry dust.

Steel converting, melting, &c.

Metal rolling.

people, employers and workers, that it should be so used, and this not only by grinders, but by cutlers, and workers in bone and other materials, whose work, or parts of it, causes a considerable amount of dust.

57. Steel converting, *i.e.*, the manufacture of the raw material from iron, is work done only by men. In steel melting boys are employed in the cellars already described beneath the furnaces to watch the bottom of the furnace, and give notice if any of the pots run. This is likely to happen only at certain periods of the day, *i.e.*, towards the end of each of the usual three rounds of melting. But the boys are occupied in the cellars in treading clay and making of it lids and stands for pots, the pots themselves being made by men. Boys go up into the furnace when the steel is teemed or poured out into moulds to carry away waste, and in some cases help the men in teeming. Otherwise all employed in steel melting are men.

58. The work at rollers, in which a great number of boys are engaged, is in my opinion often very heavy for their age and strength. Boys plainly have sometimes to strain their bodies considerably to enable them to heave up the weight of metal so as to pass it back over the roller, and I have seen a boy failing in his efforts and dropping the red-hot iron or steel close by his legs.

Often beyond boy's strength.

59. Young boys may struggle passably through heavy work to which they are properly unequal, but, to judge from my own observation, there are many cases in which greater age and strength, even if they cost more in wages, would go far to repay this to the employer in increased speed and efficiency of work, taking no account of the benefit to the boys in saving them from undue exhaustion, and so also from risk of accident likely to result from this.

Force spent in file cutting.

60. Even in file cutting, which looks quiet though rapid work, the amount of bodily force spent in the course of a day is considerable. The data given by one man, assuming them to be correct, show that in a day of ten good working hours he makes 46,000 strokes, most of them with a 7½ lb. hammer, thus lifting a weight of 142 tons. (No. 130; cf. also No. 128.) Boys use lighter hammers, "usually "from ¼ lb. up to 3 lbs.," but with lighter hammers work is quicker, and at light work girls, it is stated, can work quicker and earn more than boys.

Heavy hammers used in forging.

61. Boys sometimes use too heavy hammers in forging. A witness speaks of having "seen a boy "14 years old using a 22 lb. hammer, and some who have grown completely out of form from the "work." (No. 128.)

Other work, as in 1841.

62. The description of other kinds of employment of the district furnished on the occasion of the former inquiry here may be taken as equally applicable to them as still carried on.

VII.—Hours of Work.

Piece work.

63. Owing to the general prevalence of the system of piece work and the independence of the workers no accurate account of the usual work hours can be given. All that is possible is to give instances of the hours which, as a fact, are most commonly found in some of the chief trades.

Hours in wheels.

64. As regards grinders in Sheffield, who depend upon steam power, it appears that their proper hours, which are moderate, being 60 hours a week, or a little over or under, though not equally distributed to each day, cannot often be exceeded, for the simple reason that power is seldom supplied for more than the stated time. It would be a loss to the owner of the wheel to supply it for longer to be used probably only by some of the workers. A boy of 10 years old, however, was glazing forks all through the week in which I saw him from 6 a.m. till 9 p.m., having no breakfast or teatime. (No. 16.)

In water wheels, irregular.

65. Where the power used, as generally in country wheels, is only water power, the hours depend upon the supply of water, and often, especially in summer, are much below the supposed amount, which does not exceed that of the town grinders. But, on the other hand, time is apt to be made up, and long hours are made by some. One boy, a fork-grinder, works "many times 15 hours a day."

Factories open for long hours.

66. The same rule of not exceeding a moderate stated number of hours appears to hold good in many trades, so far as regards the use of steam power; but where work can be done independently of power, no objection is shown to longer hours of work. Thus many factories are kept open for 14 or 15 hours for those who like to work, though, as a fact, it is only by a few, or towards the end of the week, that more than a moderate day is made. But where the workers are irregular in their habits, or the earnings, as in the case of cutlers, are comparatively low, the effect is that in some cases, or in the later part of the week, unduly long hours of actual work are not uncommon. Thus, at times, factories are open for 15 or in some cases 16 hours in a day.

67. In some cases, as in file cutting, men can work late without keeping the boys, but in other work, as iron and brass founding, cutlery, metal rolling, &c., children and young people are kept late to help the adults.

Small shops.

68. A fair sample, probably, of children's work in small places is given by a boy, No. 196:—

"Worked at cutlery before at a small place. There was only one boy besides me. I war but a little 'un when I went; must have been about 8 years old. There were no regular hours. Sometimes went at 6 in the morning and worked till 9 at night, and on Fridays sometimes till 9½ to finish for Saturday, but that was the latest. * * * Did not work much at the beginning of the week; may happen half a day on Monday, according to the work. Had about 20 minutes for dinner, and took it there, and about a quarter of an hour to us teas, and breakfast about the same, or while we could swallow it."

Week before Christmas.

69. In Sheffield, in the week before Christmas, called "Bull week," it seems generally understood in works of most kinds that the workers may work very long hours, in some cases as long as they please, to earn money and make up the time which will be lost in the holiday following. This custom is much deprecated by several thoughtful persons. No doubt, as an intelligent cutler states, "it would be a "great blessing to Sheffield if Bull week could be done away with; I see nothing in it but folly." (No. 203.

Steel and iron works.

70. In steel and iron works a period of 12 hours work, less stoppages, is the established rule, and where night work by relays is carried on the stated time cannot well be exceeded, except in a very objectionable way noticed separately below. Where regular night work is not practised, overtime for a quarter or half a day is sometimes made.

71. In steel melting much overtime is pretty well guarded against by the nature of the work. The pots used for melting, which are renewed every day, become so worn out by the great heat, that they cannot be used for more than the usual three rounds without a risk of loss from the waste of metal which would overbalance the gain; though in some cases an extra round is made. The three rounds are usually completed in 12 hours or less. As a rule no fresh set of pots is put in for a night relay, but this can be done, if needed, and in rare cases has been done.

Saturdays unduly early a.m.

72. For the sake, however, of finishing work early on Saturday, and in some cases on Monday, the workers at some places have to begin on one or both of those days at a very early hour; viz., 4, 3, or 2 a.m. A boy of 9 years old, having to begin at 3 or 2 a.m., and living 4 or 5 miles off, had to sleep the night before on the floor of the furnace. (No. 115.) One states that he sometimes comes at 12 on Friday night. (No. 87.) That these early hours are not necessary is best shown by the fact that at several places they are not the custom; and at works of high standing, those of the Messrs. Ibbotson (No. 127), a change from 2 a.m. to 4 a.m. as the hour of beginning on Saturday has been found "a great improvement in every way."

An indirect evil of night relays to boys.

73. The practice of boys working at all by day and night turns, either in the usual course of things or at pressing times, seems inevitably to open the door to their not unfrequently working unduly long hours. These hours are indeed, in some cases, not only cruelly but even incredibly long for children. Amongst a number of boys it will of course not unfrequently happen that one or more are from some cause absent. When this happens their place is made up by one or more boys who work in the other turn. That this is a well-understood system is plain, not only from the statements of boys themselves, nearly all of whom, if questioned on the point, state that they have done so; but, perhaps still more clearly, from the answer of the manager of some large rolling mills, who, when I asked him how the place of boys absent from their turn was made up, answered, "I dare say, sir, you know that as well "as I do;" and admitted the fact.

Excessive overwork of boys.

74. But not only in this way, but also in places in which night work is not part of the system, an excessive amount of overtime is not unfrequently thrown upon young boys, *e.g.*, a quarter of a day, a half, or even a whole period of 12 hours in the 24. This is especially the case in steel and iron rolling of the lighter kinds, *e.g.*, for crinoline and wire.

Instances.

75. A boy 9 years old, or at most 10, worked at crinoline steel rolling three nights running, as well as the days, and this under his own father:—"We should have gone so (*i.e.* nights as well as days) to the "end of the week, only the engine broke down." (No. 79.) His case and the appeals which he repeatedly made to me whether he might not "go to school a bit longer, instead of working," struck me as peculiarly painful. Another, now 11, who went at 9 years old to hardening and tempering crinoline steel, worked there from 7 a.m. till 9½ p.m. four nights a week "for many and many a "month"—"many a time till 12 at night," and either once or twice "worked from 7 one morning all "through the next night and day, and on till 12 the following night." "I had to live very badly, and "if I had no dinner he (the man) always gave me a bit." (No. 149.) Another boy, at a rolling mill, where his proper hours were from 6 a.m. till 5½ p.m., worked about four nights every week till 8½ p.m. at least, and this for six months out of the nine that he was there, there being day and night relays in the remaining three months; and for about four months he worked one day and night together every week, and sometimes two days and two nights running. (No. 101.) Another at 9 years old sometimes made three twelve-hour shifts running, and when 10 has made two days and two nights running. (No. 143.) Another, now 13, at a former place worked all night some Fridays, and other nights except Mondays always till 8 or 9 p.m. (No. 85.) Another, now 10, at a former place worked from 6 a.m. till 12 p.m. three nights and till 9 p.m. the other nights in his only week there. (No. 220.) Another, now 14, has worked sometimes from 6 a.m. on Friday till 2 p.m. on Saturday. (No. 110.) Another, now 13, at a former place worked from 6 p.m. till 12 noon next day for a week together, and sometimes for three shifts together, *e.g.*, from Monday morning till Tuesday night. (No. 111.) Another, now 12, has worked in an iron foundry at Stavely, "from 6 a.m. till 12 p.m. for a fortnight on end; could not do it any more." (No. 169), &c.

Dangerous effects.

76. No wonder that boys sometimes fall asleep at their work, stumble, fall when the metal flooring gets "hot and slippy" and work is pressing, get burned or pierced with red-hot iron or steel, or otherwise suffer for their supposed negligence. After every allowance has been made for some inaccuracies of the boys' memory, which I am aware is necessary, especially where the facts spoken of happened two or three years back, and admitting that it is too much to suppose that the hours spoken of, which are necessarily put in the form of general statements, can possibly be given, in all the cases mentioned, with minute mathematical accuracy, though every care was taken to make them as accurate as possible, it is impossible not to believe that they are substantially true on the whole, and that they show the existence of an amount of overwork of young boys which is truly fearful.

VIII.—Night Work.

Females.

77. As regards females, there is no manufacture in which night work prevails as part of the system, though instances are mentioned in which they have worked very late, or through the night, in addition to their day work, as in cutlery and file cutting shops, and at crinoline steel.

System of relays.

78. In some branches of iron and steel work which employ boys, night work by relays is part of the regular system, but in steel works, in several cases, where the work is of precisely the same kind, night work is practised only when trade is good, and the demand sufficient to keep the works going for the 24 hours; thus showing conclusively that in several branches at least the night work of boys which prevails, is not essential.

From 6 to 6 or 12 to 12.

79. In some cases the relays come on at 12 o'clock noon and midnight, instead of the usual hour of 6. The only reason which has been given to me is that the hands like it better, as it leaves them always some part of the day off work.

Some boys always in night shifts.

80. It may happen that a boy is kept always on the night-shift, instead of working in the day-shift in alternate weeks as others do.

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81. The night work presses hardest on the boys on Monday. Having been to bed on Sunday night they "cannot lie in bed on Monday, so I am up for 24 hours running. It is very seldom as ever I do go to bed on Monday then." (No. 167.) It also seems but natural, as a steel manufacturer who employs boys in night work states, that boys who work at night at all "cannot sleep and get proper "rest by day, but will be running about." (No. 109.) On the other hand the night relays get the advantage of working only five shifts a week.

Effect of Monday night work.

82. In some steel works where only water power is used it is stated that work goes on at any hour of the day or night just as the supply of water makes it convenient. Water power, which is plentiful in the neighbourhood of Sheffield, is still found valuable at any rate as an auxiliary.

Water power hours.

IX.—Meal Hours.

In grinding wheels.
In water power wheels.

83. In grinding wheels worked by steam power the engine stops at dinner time for an hour, but at no other time, and does not stop for dinner on Saturday. In wheels worked by water power, as those in the country, where artificial light is less easily obtainable, no stoppage of the machinery takes place, a meal merely being taken and work recommenced.

In other works.

84. In other kinds of work, except iron works, half an hour for breakfast and an hour for dinner are usually supposed to be, and where the work is day work are, taken; but where the work is piece or independent work, the meals depend much upon the choice of the workers, or rather of the men. Boys have little choice. Their meals are often much curtailed. (Nos. 212, 203, 196, &c.)

In iron works.

85. In iron works fixed times for meals are not customary, and are said to be impossible, but the workers take their meals in necessary intervals in their work, which are stated by employers to be frequent and ample for the purpose. The length of these times will vary much, but clearly is not always ample. An iron-works boy, though in a foundry, states—"Have time for meals just while we "eat them, but no more. (No. 169.) Another puts the case much the same:—"Have no time hardly "for meals, but get them between times." (No. 94.)

X.—Holidays.

Several.

86. These appear ample in Sheffield in most trades, but vary somewhat in different kinds and places of work as well as with the state of trade. They remain much the same as stated in 1841, except that a short day on Saturday, ending at from noon to 3 or 4 p.m., has become pretty general. To make up for this, however, in steel melting, work is sometimes begun very early on that day, as at from 5 to 2 a.m. Monday is in most cases shorter than other days, and by many workers either in whole or in part wasted. When this is the case, longer work is here, as elsewhere, thrown on Friday, especially in small work-places.

XI.—Treatment.

Occasional ill-usage.

87. Boys are sometimes, but I believe not often, ill-treated by men. One, whom his master used to swear at and punch, *i.e.*, kick, *e.g.*, "when he (the man) came back from the public," says, "They can't "beat you unless you're bun (bound), but then they can." (No. 85.) Several persons have spoken to me of the greater security of boys from ill-treatment now in consequence of so much fewer being tied to a man by apprenticeship. Another boy speaks of different men who ill-used him, particularly "a "Brummagem chap, who was always scabby, *i.e.*, agate of hitting on us;" "He used to get beer and "was drunk." "One time when he was striking at me with his fist I tried to get out of the way, and "my shirt nearly catched the shafting. If it had I should have been took round and killed." (No. 143.)

XII.—Accidents.

Unfenced machinery.

88. Serious accidents happen, but are not common. Comparatively few females are exposed to them. But I have seen work-places where they are in danger, which might easily be avoided by proper covering of shafts and bands, and in one factory was told that some boarding, which I had noticed, was put up over some shafting on the recommendation of the coroner in consequence of a fatal accident to a female. Where females work such precautions are sometimes used, sometimes not. In one cutlery shop a young female, polishing wooden knife handles, had her dress stripped off by the shaft twice in the same day. (No. 201.) In another, the mistress told me that one of her girls "was a dragon "for getting into danger and needed watching, and had even sat down on the shafting, just to see how it "felt when it was 'set agate.'" "Girls are soft giddy things." (No. 188.)

89. Uncovered machinery is a source of danger, not only to those at work, but to girls and children who may constantly be seen coming in for other purposes, such as bringing their relations' meals, errands, talking, &c. In this way a boy was drawn through rollers and killed (No. 179); a boy of 9 years old, in playing, fell under the shafting in his cutlery shop and broke his leg, and was laid up 14 weeks with it. (No. 190.) In some cutlery and grinding works a girl, in playing, was crushed by a drum. "They had to pick up her bones in a basket as they found them, and that's how they buried "her." (No. 188.)

90. Bands, the straps which convey the power to the workers, furnish the chief source of danger to boys, especially the throwing them on and off. This, I am convinced, might be much diminished by a better arrangement and protection of the bands, and mechanical contrivances such as I have seen in use. In a bobbin factory in which a great number of boys work at lathes, &c., requiring bands, these are brought up from below in such a way as to be out of reach in all but the part fitted to the lathe, and the boys are never "trusted" to throw their band on or off themselves, but must call a man.

Machinery in wheels.

91. In grinding wheels the machinery is often very much exposed. In some of them machinery of the same kind is covered over, sometimes efficiently, sometimes not so, but enough to show that such protection is both possible and thought desirable. In country wheels worked by water power I have seen most formidable cog-wheels without any protection. Grinders say that the danger is much increased by the want of light in the hulls, especially after dark, when some are lighted only by a few dip candles, and these shut in on three sides in rude wooden boxes to keep off the great draught.

92. A source of danger peculiar to grinders arises from the flying of stones. An accident from this cause is likely to be most serious, though wonderful escapes happen. A stone flies either from some flaw in itself, or from the faulty way of fixing it on its axle, or from the too great speed of the machinery. Careful inspection and testing before use will do much to guard against risk from flaws in the stone; though it cannot in all cases ensure safety, as the flaw may be far inside and beyond the reach of testing. Fixing the stones on their axle by means of iron plates, which give strength to the centre of the stone, instead of on the old plan, which is still often practised, of using wooden wedges, which are liable to swell from moisture or from the heating of the iron, is admitted to be a great security, and there is no reason why it should not be universally adopted, at least for large stones, in which the danger is greatest. One man has had 10 stones break, besides several narrow escapes from stones near. (No. 47.) Bursting of grindstones.

93. In some country wheels the apparatus for regulating the amount of water power supplied to suit the varying demands upon it is most inartistic and under the charge of no responsible person. At a factory in Hathersage (No. 75), a simple and effective apparatus for the purpose is in use. Too great a speed, whether from steam or water power, causes immediate alarm in the grinders, if they notice it. A stone flying may kill not only the person sitting at it, but others in the line either behind or before, or sometimes on one side, or even outside the building. A boy usually works behind a man. I have been cautioned not to stand in front of a stone, and my conductor, who warned me, told me that he had nearly been killed from doing so. Precautions. Danger of speed.

94. Grinders are also liable to frequent pain, and sometimes to serious injury or loss of eyesight, from the "mites" or sharp particles of hot steel which fly into their eyes in grinding. Some wear glasses, but I did not notice many so protected. The glasses are said to incommode them and impede the sight. A fellow worker takes out the mite with a lancet or a "sharp pin,"—a very unpleasant sight. Grinders are sometimes kept awake at night by the pain. (No. 23.) "Mites" in grinders' eyes.

95. Boys are sometimes put to work needing greater care than can reasonably be expected from their age; *e.g.*, one boy only 11, another only 12, were put to work at small steam circular saws; work at which, "unless they have something of this sort (a simple contrivance for safety), they slit their fingers." (No. 204.) At some dangerous looking spoon rolling machinery "little Johnny lost his finger." (No. 218.) The circular-saw boy just mentioned as only 11 was away, having just lost his arm from being drawn up to the ceiling by the band and turned round the shaft. Circular saws, &c.

96. Boys occasionally get drawn in by rollers, and of course then mangled or crushed. At some iron works in the neighbourhood a boy, as I was told, went through the rollers and "came out as flat "as a pancake." But, at most, metal-rolling boys have no business to be on the "putting-in" side, on which alone there is this danger. The parts which can be covered are sometimes protected by screens, but often not, and sometimes only imperfectly, as by a loose board. Crushing in rollers.

97. In rolling hot rods or wire it sometimes happens that the metal coming out pierces a boy, *e.g.*, if it turns aside, or a boy stumbles against anything, or slips from the metal flooring having become very slippery. The danger is much increased by weariness or sleepiness from working long or unseasonable hours. Boys even fall asleep at their work. "When it (the hot steel) comes through, it wakes me." (Nos. 110, 101, 143.) Burns, &c.

98. In working amongst hot metals slight burns are of course very common, but even these are enough to keep a boy away from work for a considerable time; or, if not, the constant work and dirt are unfavourable to healing. A boy of 10 years old told me that an ugly raw burn, which I saw on his thumb joint, had been in just the same state for more than six months.

XIII.—Wages.

99. It will be sufficient, under this head, to say that, speaking generally, the wages are very good. In steel, iron, and other large works few boys get less than 3*s.* a week, and some, though quite young, from that up to 5*s.*, while some others, older, though not over the age of 16, get from that to 10*s.* In some branches of work, however, such as cheap cutlery, and work in which there is much competition from small masters, the wages are much lower; as low as 1*s.* a week is mentioned. Some table-knife hafters state that the average earnings of even the men in that trade are not more than 16*s.* Generally good.

XIV.—Influence of Employment upon Physical Condition.

100. The common belief in the unhealthiness of Sheffield grinding is but too well borne out by the experience of medical men and trustworthy statistics. Grinders themselves also are well aware of the fact, and when questioned by me as to the effect of their work on health, have often answered by referring at once to the low average of life in their branch of trade, while a youth answers that he has not had anything the matter with him "yet." It is important, however, to bear in mind the many varieties of work, and the different degrees in which these are likely to affect the health; though at the same time, owing to the mixed nature of the employment of most grinders, it is difficult to trace the bad effects to one portion to the entire exclusion of others. But it seems clear that grinding is more or less injurious in proportion as more or less of it is dry. Grinding most injurious.

101. The physical effects of the employment of grinding are so well known, and so fully pointed out in the evidence, particularly in medical statements Nos. 2 and 4, that it is unnecessary for me to enlarge upon them. I may state, however, that my own observation of the appearance of the grinders fully bears out the opinions expressed by others. The disease from which grinders specially suffer is known to them by a special name as the "grinders' disease," or "grinders' asthma," or simply as consumption. The "grinders' disease."

102. The very phrases commonly used by grinders are expressive, and point to familiar evils. Fork grinders "go off like dyke water, so quick," if they begin young. (No. 15.) File grinders "go "off like nothing." "They seem to rot off at 34 or 35, and some at 23 or 24, according to their constitution." (No. 25.) A scissor grinder at 18 thought "he should go off." (No. 26.) A file grinder

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Waste of life.

gets up in the morning "coughing and barking." (No. 23.) A fork grinder, aged 26, reckoned that "in about two more years, at his own trade, he might begin to think of dropping off his perch." (No. 2.)

103. The influences to which fork grinders are exposed "have a tendency to rob them of 25 years of "their lives." "It is an undoubted fact that many of these men are cut off before the age of 30." "In dry grinding very often before the age of 20 evidence is afforded of the existence of grinders "disease." A boy of only 11 years old, who had been a grinder since the age of 8, "had a fearful "cough, and on examination I (Dr. Hall) found the upper portion of both lungs extensively diseased." (No. 2.) "At that period one fourth (of the adult fork grinders) died every four years." (No. 4.)

Boys should not begin young.

104. It seems perfectly clear that entering upon the employment at an early age, especially in the worst branches of work, makes a grinder much more likely to suffer from the work. Many consider that a boy should not be allowed to begin till the age of 12 or 14. Allowing for the objection which may occur to some, that this opinion may be in some degree influenced by the wish common in many trades to keep up wages by preventing too great a supply of labour, I believe that the conviction that the work is unsuitable for young boys is sincere. It is expressed by most respectable men, and these as a rule do not take their own or other people's children to work for them under the age of 12 or 13.

Age of breaking down.

105. In most cases, however, not much if any bad effect is felt till the grinder is quite or nearly grown up. But soon afterwards health often breaks down very rapidly, and the cases seem very few where men while still young do not feel some amount of injury to their health. This, however, depends very much on the steadiness of their habits and their use of means for preserving their health, particularly of the fan. It is clear beyond doubt that the benefit of the fan is very great.

Stunted growth.

106. The growth of many, in this and other trades, appears from some cause to be stunted, and their bodies weakly. (Nos. 38, 128, 131, 132.) The confined position in grinding, file-cutting, &c., no doubt contributes to this. In some cases, the body becomes mis-shapen. Saw grinders stand at their work and grind wet. They are usually spoken of as the healthiest class of grinders, and as a fine set of men. The work takes more strength, and boys usually begin it at a later age. Some of the cutlery workers too are stunted. These begin at a very early age. A boy of 15, who had been at cutlery five years, measured only 4 ft. 7 in. high, 26 inches round the chest, and 5 inches round the wrist. Many are as slight and small of their age. (Cf. measurements, &c. &c. in No. 77.)

Lead poisoning from file cutting.

107. File cutting is injurious, owing not only to the constant confined stooping position, which "makes the back and side ache," but also to the lead on which the file is cut, the dust of which is absorbed, and causes colic. Weakness and wasting of the thumb and wrist are also common with file cutters. The weakness of the thumb is attributed by some to the constant strain from holding the chisel. Bow-legs are also attributed to the posture in working. "A doctor near here used to say that they (file cutters) were more like rotten sheep than anything. After a man is 40 they begin to hiss at him, and he goes down hill." "His hand is not so steady, and he only gets common work." (No. 132.) Lead poisoning is one of the prevalent complaints of Sheffield. There are, however, also in the town lead works, and some glass cutting,—a work in which lead is used. But the number of persons employed in these works is extremely small as compared with the file cutters.

XV.—Moral Condition.

Improved.

108. A full account of the general moral condition of the young of the working classes in Sheffield was given by Mr. Symons in 1841, and I do not think it necessary to go into the question afresh. As that account, however, was unfavourable, it may be well to add that, according to the opinions of persons speaking of trades with which they are acquainted, in some cases the advance of education and social changes have caused a great improvement; in others that there has been little or no change, or, if any, for the better. But on the whole there seems good reason for hoping that there is a decided improvement. There is, however, much need for more. Drinking prevails to a large extent, owing, probably, in part, to the thirsty nature of some of the employments; and there are other circumstances showing in too many a very low state of moral practice and feeling. The ease with which high wages are earned, coupled with the power of working irregularly, are thought to lead to some of the bad habits referred to.

Education.

109. As regards the state of education, I made less full inquiry than I have done in some other cases, but sufficient to show it to be very defective. The proportion who have not ever attended day-schools, or done so to any apparent profit, is decidedly large considering the comparative smallness of the demand for young children's work; and there appears also to be great neglect of attendance at Sunday schools and places of religious worship.

Neglect of schools and religious worship.

110. In the country districts the clergy and schoolmasters complain that the employments of the place or neighbourhood interfere greatly with education, and cause children to leave schools at a too early age; and also that great moral injury results not only from this, but from the high wages earned at an early age, making children independent of the control of their homes.

Ignorance.

111. Numbers of boys, some of considerable age, are unable to read or do more than tell the letters, if that; and in most cases where I made inquiry on such points, I found ignorance of simple facts of religion or secular life as great as I have found elsewhere. Some table-knife hafters compute that probably a third of the adults in that trade cannot read or write. In a manufacturing country parish out of about 1,000 persons who signed a petition a few years ago for the Sunday closing of beer houses, about 700, including a schoolmistress, made their mark. (No. 288.)

112. Having, however, in a late Report on another district, drawn out from the evidence a list of instances showing the kind of ignorance found there, I will only state now that, though in the Sheffield district I went much less fully into the question of education than I did in the former, the evidence furnishes a number of instances of just the same kind, showing, in several of the generation of citizens now growing up, a like ignorance of the country in which they live, the ruler by whom it is governed, or the Founder of the religion which it acknowledges.

113. For some illustrations of the above remarks, see Nos. 207, 85, 96, 97, 149, 252, 6, 143, 194, 35, 33, 82, 101, 152, 184, 200, 224, 225, 230, 240, 268—271, &c.

XVI.—General Remarks.

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114. As regards the question of any legislative interference with the labour of the young, there is a wide difference of opinion in Sheffield according as it is taken from one class or another. The leading manufacturers generally express opinions much to the same effect as those reported by me with regard to many of the same class in Birmingham, viz., that there is no occasion for any legislation. They consider that regulations may be beneficial in "factories" (*i.e.*, for spinning and weaving, &c.), where females and children work in numbers and in hot rooms, but that there is nothing of this kind here. They say that the hours are moderate, earnings high, and the operatives altogether in a very favourable position as compared with most in other parts of the kingdom, and probably more independent, indeed, far too independent. They believe that children are not employed young enough to be physically, at any rate, injurious to them; that none of the work except grinding is unhealthy; and that neither children nor young people are worked over long hours.

Legislative interference. Views of manufacturers.

115. The operatives in Sheffield have undoubtedly many advantages, *e.g.*, separate houses for separate families; two excellent provision markets, which are perfectly thronged on a Saturday evening with the working classes; and moderate prices for the necessaries of life; while the earnings in many trades are very good.

116. But whatever may be the condition of the men in many trades, or of the workers generally in some, it is plain that the condition of the young in several is far indeed from being so favourable as represented. It must be remembered that under the system of work which has been described most of the boys are removed from the direct supervision of manufacturers. The wheels and many of the work-places are also. The hours which young boys are often kept at work are probably as much without the knowledge or thought of the manufacturer as they would no doubt be contrary to his feelings and wishes. Indeed, as much is stated.

The facts as to boys, &c.

117. The youngest children, too, are often employed by the men against the wishes of their master. Many employers would willingly, even gladly, dispense with young children entirely, and think that to a certain age they should be at school. This is the view of the thoughtful of the working classes.

118. The trades, it will be seen, are anxious for some measures to secure education and protection for children, attention to sanitary arrangements, and the protection from accidents by machinery. On these grounds they wished to forward my inquiry by all the means in their power.

Views of working classes.

119. As regards the state of the work-places, the system of work in many places, especially in wheels where a master's supervision is not required, is very unfavourable to improvement. If the owner of a wheel puts up fans, the men have in some cases to pay for it by extra rent. If the owner puts none, grinders often either cannot or will not pay for one themselves; and if a careful man provides himself with one, he suffers from others who do not. One grinder who had put up a fan for himself and others working with him, took it down again because the others refused to pay a penny or two a week for it. Finding it gone, they offered to pay if it was put back. But neither would give way. The man said, "I know that I shall live so many years the less, but if they will not pay me, they shall not "profit by it." Under present circumstances some external authority for securing a proper state of wheels seems absolutely necessary if the health and lives of grinders, especially those not able or old enough to take care of themselves, are to be preserved.

Necessity of some supervision of wheels.

120. Striking testimony as to the great social and political benefits brought about by factory legislation in the manufacturing neighbourhood of Barnsley, is given by a gentlemen holding an official position in that town, and it will not probably be discredited as unduly biassed from the fact of its being given by a relation, though not a son, and one who also bears the name of a well known promoter of that legislation. (Mr. M. T. Sadleir—No. 263.)

Benefits of factory legislation.

121. I also beg your attention, so far as applies to the present subject, to the Memorial (No. 289) presented to the Committee of Council on Education in 1857, from a manufacturing neighbourhood which I visited, signed by manufacturers and others, and praying for an extension of factory legislation to that neighbourhood; and also to the comments on that Memorial in No. 288.

122. On the whole, excepting some difficulties which would no doubt be felt in the large iron and steel works from compulsory regulations as to night work and meals of all boys under 18, there are probably few places or employments in the kingdom in which some proper legislative regulations as to the employment of the young, state of work-places, &c., could be applied with less derangement of the interests of trade, or with greater benefit to the large numbers concerned, than in the staple manufacturing employments of the Sheffield district.

I have the honour to be,
Gentlemen,
Your obedient servant,

Lincoln's Inn, December 1864. J. Edward White.

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Sheffield District.

Grinders.

Mr. J. E. White.

a.

EVIDENCE.

GRINDERS.

1. On my applying to Dr. Hall, physician to the Sheffield Public Hospital and Dispensary, who has carefully studied the subject of the grinders' disease, he referred me to a late publication of his on the subject, as embodying the results of his inquiries, which were made with great care by personal inspection and with the help of intelligent grinders, so that in speaking of his statistics he is able to say, "they "may, I am certain, therefore, be taken as a close approximation of the truth." Some alteration may have taken place since that time as to details of the number of the wheels and of the grinders in some branches of the trade. The number of grinders in some trades, I have been informed, is probably not so large as represented by Dr. Hall, in one or two larger; but on the whole less. The main facts, however, and the character of the employment, remain unaltered. As the most convenient form of availing myself of his experience and views, I give some extracts from his book, and place them at the head of the evidence on grinding, as they give many of the general features of the trade, and will make parts of the evidence more readily appreciated.

2. Extracts from a Treatise on the "Sheffield Grinders' Disease," by J. C. Hall, M.D. (Longman and Co., 1857.)

The trade of a grinder is carried on in a building called a *wheel*. In and near Sheffield there are about 96* wheels, and of these 80 are steam wheels, and the remaining 16 water wheels. * * * The rooms in which the men work in the different wheels are called *hulls*, the literal meaning of which is a *stye*; and a visit to some of them would convince any of my readers that it would indeed be difficult to select a more appropriate appellation. * * *

Boys are apprenticed to the lighter branches at from 9 to 13 years of age, and to the heavier branches of grinding at from 12 to 14. Some go to the trade even younger than this. In my recent visit to the wheels, I met with one boy only 11 years old; he had been in the hull since the age of eight: he had a fearful cough, and, on examination, I found the upper portion of both lungs extensively diseased. * *

The following table will show the immense quantity of steel-dust that must of necessity be created in the first process a razor undergoes on the dry stone.

Table II.—Showing the weight of a dozen of razors in the different stages of their manufacture.

Shape of the Razor: Quill Backs.

	lbs.	oz.
Twelve razor blades, forged in the rough -	2	4
Twelve razor blades, shaped - -	1	15
Twelve razor blades, finished - -	1	10

Loss in shaping, five ounces per dozen, principally on a dry stone.

Loss in grinding on the wet stone, five ounces per dozen.

Shape of the Razor: Swaged Backs.

	lbs.	oz.
Twelve razor blades, forged in the rough -	2	0
Twelve razor blades, shaped - -	1	10
Twelve razor blades, finished - -	1	8

Loss in shaping, six ounces per dozen (dry).

Loss in grinding, two ounces per dozen (wet).

The above varieties of razors have been selected as patterns generally in use. * * * Great friction is required to grind a razor to its proper shape. Razor backs are for the most part round; and the pressure during the process of shaping is so great that no wet stone could sustain the rolling friction; the stone would soon become uneven, like a hammer-stone, and so pulverised that, after shaping four or five blades, the workmen would be unable to hold the blade on the stone. Forks, razors, table-knife-bolsters, scissors, shanks, and needles, undergo the rolling process, and consequently require the dry stone. * * * In shaping razor-blades, &c., on the dry stone, an immense number of red hot particles of steel fly about in all directions; from these "motes," as they are called, the eyes of the grinders were constantly injured, and in some cases permanently lost. * * * In shaping a dozen large razors on a stone seven inches in diameter, the stone would be reduced nearly one inch.

During the process of dry grinding (and in dry grinding the greatest danger to the workmen arises), the dust which is created from the stone and the metal pervades the room in considerable quantities. But it is not only in grinding that dust ascends; much of the evil resulting from the trade of a grinder (and to this dry and wet grinders are alike liable) proceeds from "hanging" and "racing" the stones. * * * During the operation, the rooms are unavoidably filled with dust; the dust also arises in perfect clouds when the sides of the trow are swept, after the process of racing is over: it takes about half an hour to race a large stone. * * * Much dust is also created in glazing and polishing; the amount will depend in a great measure on the nature of the glaze used; that employed in the glazing of forks is the most injurious. * * *

Fork Grinders.—The men employed in grinding forks work on a dry stone. It is by far the most destructive of the grinding trades carried on in Sheffield. * * * It is an undoubted fact that a great many of these men are cut off before the age of 30; and that, if commencing, as most of them do, the trade at 10 years of age, at the age of 21, if constantly at work, the expectation of life would not most certainly exceed 14 years. The calculation of Dr. William Farr, in the sixth report of the Registrar-General, of the probable duration of human life in England at the age of 21, is 39 years; so these unfortunate men, we may conclude, are exposed to influences which have a tendency to rob them of 25 years of their lives, to deprive to that extent their wives and families of the benefits of their labour, and to fill the union houses with their widows and orphans. No more graphic picture can possibly be drawn of the effects of this trade than in the address presented some years ago by the fork-grinders to the public; they said: "It is part of our duty to allude to the "destructive influence of our trade; for be it known "that, in respect to the pernicious effect of grinding "trades upon health, our branch is by far the worst. "We can show by irresistible facts, drawn from the "statistics of our trade, that the average age of fork-"grinders does not exceed 30 years. Nor is this to "be wondered at, considering the poisonous atmo-"sphere we have to breathe, which renders the far "greater part of us mere shadows of men, and pro-"duces a complication of diseases, of which the most "formidable is the asthma and dry cough, known by "the name of the 'grinders' complaint,' attended as "it is by consumption, which no medical man can "cure. In such cases, life is a burden to the poor

* I am informed that the number is now greater.—J. E. W.

" sufferers, and their frames are gradually emaciated " and wasted by a repetition of slow tortures." This is unfortunately an "o'er true tale." * * *

The following table shows the number of grinders at present employed in the different branches of the trade, and the average ages of all the men now living, those under 21 being excluded.

Table III.

Number of Grinders, 1857.	Men.	Boys.*	Average age of all the men now living.
1. Forks	160	120	29
2. Spring knives	685	600	34
3. Razors	300	220	31
4. Scissors	300	200	32
5. Table knives	800	250	35
6. Edge tools and wool-shears	200	80	32
7. Saws	160	50	38
8. Surgeons' instruments	15	12	—
9. Files	160	85	35
10. Sickles	50	20	40
11. Jobbing grinders	280	210	—
Total	3,110	1,847	—

Total men	3,110
Total boys	1,847
Add about { Scythe grinders (men and boys)	60
Add about { Needle grinders	12
Number of grinders in and near Sheffield	5,029

* * * The Soho wheel has 50 hulls, and, on an average, 500 men and boys work at it. The Union wheel contains 46 hulls, and from 300 to 400 men and boys are employed. (Dr. Hall on personally taking down the ages of all the men employed in these two wheels found the averages correspond almost exactly with the ages given in Table III.—J.E.W.) * * * The average age of the fork grinders at these wheels was only 28. At the Soho wheel, a fine young man, a fork grinder, aged 26, remarked, "that he reckoned, in about two more " years, at his trade, he might begin to think of " dropping off the perch;" adding, "a fork grinder " is an old cock at 30." The average age of all the grinders in the different branches at work at the Union wheel was 34, and all boys under 21 are excluded from my calculations. * * * The Union and Soho wheels are both first class wheels, and the mortality at them may be considered below rather than above the usual mortality.

The average ages of the grinders at death, at some of the principal wheels, are given in the next table; and the great majority of the grinders (probably eight out of ten) work at about 10 large wheels; the rest at small wheels.

Table IV.—Average age at death of Grinders at the following Wheels.

Name of Wheel.	Return of Deaths since the Year	Average Age at Death.
Messrs. J. Rodgers and Sons	1836	42
Union Wheel	1850	40
Soho Wheel	1845	40
Old Park Wheel	1844	41
Suffolk Works	1845	38½

* * * * * *

In dry grinding, very often before the age of 20, evidence is afforded of the existence of grinders' disease. The breathing is difficult, particularly when ascending a hill, or the steps leading to the hulls in which they work, and the shoulders even at this early age are often elevated in order to relieve the distress occasioned by shortness of breath.

The cause of this disease is, first, the irritation produced by the metallic and gritty particles inhaled in grinding, in "hanging," and in "racing" the grinding stone; and, next, the constrained position in which the men labour. To this must be added the working for many hours in a badly ventilated room, and the very unpleasant smell produced by the friction of the steel on the grinding stone. When at work, the grinder sits astride of what he calls his "horsing;" this is a low, narrow, wooden bench; his elbows rest upon his knees, and his head, particularly when employed on very small articles, is bent over the stone. The position is a very injurious one, and when long continued, is calculated most unquestionably to induce pulmonary congestion.

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Again, in many of the heavy branches, such, for example, as table-knife grinding, the men work in the coldest weather without either coat or waistcoat, with their handkerchiefs off, their shirts open, and their chests fully exposed; and this too in a room every bit of the glass from the windows of which has been removed, that the light may not be obstructed by the splashing of the water rendered dirty by the grinding stone. The work is very laborious, the men perspire freely, and in this condition they will often leave the hull without putting their clothes on, and recklessly lounge about in the yard even in weather as bitterly cold as we have had it this winter. Inflammation of the lungs, pleurisy, rheumatic fever, and diseases of the heart, are consequently not unfrequent amongst them.

The workmen in other of the Sheffield trades suffer from inhaling dust as well as the grinders. Bone scale cutters, ivory cutters, and the girls employed in the hair-seating manufactures, especially when working with foreign hair, suffer more or less from the dust. * * * * * *

Prevention of the Grinders' Disease.—Can nothing be done to prevent, or at any rate to render less fatal, the occupation of a grinder? This is a question of national importance, and one well deserving our most serious attention. Formerly this disease was unknown, and for this reason; until the year 1786, when the first steam wheel was erected, grinding was not carried on as a distinct branch of trade * * * The particles of dust and steel not carried away by the fan in racing a stone may be prevented from entering the air-passages by a very simple contrivance, consisting of a piece of wadding sufficiently large to cover the mouth and nose, enclosed between two pieces of silk, and secured by a band of elastic to the back of the head.

That the fans, or, as the grinders call them, "*fannies*," answer perfectly, I have convinced myself by actual experiment; and I have also received the unqualified testimony of all the most intelligent dry grinders who use them of the advantage to be derived from them. A razor grinder at the Suffolk Works wheel assured me that but for the fan he should not have now been living; and he said, "If I were to " shape twelve razors without a fannie I could hardly " breathe next day; with a fannie I can shape them " and feel as well as ever I did in my life."

To those who are not as conversant with the economy of a grinding wheel as myself, the question naturally suggests itself, how comes it, that with a contrivance so admirable and so effectual for carrying off the dust from the steel and grinding stone, the mortality is so great? I am sorry to say that these fans are far from being in general use. In some wheels I did not find one; and I went into hull after hull in other wheels where the men were humping scissors, shaping razors, and grinding forks—the most destructive kinds of grinding, as we have seen —without finding one at work. In other hulls one man perhaps was at work with a fan, and the next was destroying himself and his fellow-workmen by grinding without it; in another the man at the end *trow* had put up a fan that would serve the whole hull, which he charged, perhaps, each man a penny a week for; the man next him paid for the fan, but not having been at the trouble to fix a box, it was useless to him. Others had the fan fixed, but not at

* *i.e.*, all under 21.—J.E.W.

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work; "the noise was too great for them." And (I blush to write it, but such was the case) some dry grinders told me, that "the trade was bad enough as "it was; and if the men lived longer it would be so "*over full* there would be no such thing as getting a "living." The cost of a good fan is from 30*s.* to 3*l.*

Allusion has already been made to the age at which boys are taken to work at the wheel. To send a boy at 8 or 10 years of age to work at polishing forks, in a grinding hull, is an act of refined cruelty which the powerful arm of the law can alone restrain. The application of the Factory Act to the Sheffield grinding trades would, in my opinion, be most wise and salutary. These helpless children I would indeed commend to the protection of the State; and glad indeed shall I be if these remarks attract the eye of any member of the House of Commons and induce him to bring the question before Parliament; or if the evils, moral and physical, under which these poor boys are suffering, lead the inhabitants of Sheffield to petition the Legislature to throw around them that protection which they have not at present. The early age at which these boys are made to work, and the many hours during which, day by day, they labour, render it impossible to give that general instruction, and religious training, which we have a right to see extended to all classes in a Christian land. The immense competition that exists in many branches, the manufacture of articles to supply the "Cheap Johns" and others who frequent our markets and fairs—articles which are made for *sale* and not for *use*—has doubtless caused many more boys to be employed than would otherwise have been the case; the men remarking, with some degree of justice, that inferior goods are charged so low that they are obliged to make boys work with them or they could not get a living.

The present high rate of mortality amongst the grinders in Sheffield, I am certain, may be diminished by—

1. Reducing the hours of labour.
2. Preventing boys from being apprenticed to the trade so young as at present.
3. Obliging all dry grinders to use a fan, and to keep it in active operation.
4. Preventing dry and wet grinders from working together in the same hull.

I. *Reducing the Hours of Labour.*—It is a notion in Sheffield that a drunken grinder often lives the longest. This is a very great mistake; for intemperance has hurried hundreds of these men to the grave. * * * The truth is, that the drunken grinder is much away from the wheel: he does not work so many hours at his trade as a steady man, and thus escapes the evils which arise from the dust, and the injury to his lungs which a long continuance of labour, day after day, in a constrained position must occasion. By limiting the hours of labour, time would be afforded for indulging in out-of-doors pursuits—in exercises which would bring the different muscles of the body into play, and have a tendency to prevent some of the effects resulting from bending over the wheel when at work. It must not be forgotten, that until grinding became a separate branch of trade, and steam-power enabled the labour to be constant, the disease which forms the subject of our present inquiries was hardly known.

II. *The prevention of children entering the wheel at an early age* would afford an opportunity for the body to develope itself on the one hand, and that needful education to be given on the other, which would remove the fearful ignorance at present existing, direct the mind to pursuits which are ennobling, and give to the Sheffield grinders, as a body, a position in the social scale to which they have never yet attained. With the removal of the present state of ignorance, the importance of those general hygienic principles so conducive to health and to longevity would be more generally adopted, and the wheel well ventilated, kept clean, and frequently whitewashed, and no longer regarded as a place "only to work in," and of no importance whether clean or dirty.

3. Another Sheffield physician, Dr. Holland, formerly physician to the Sheffield General Infirmary, who has also written upon the mortality and diseases of grinders, referred me to his publications on the matter, which contain full statistics, showing a fearful rate of mortality amongst some kinds of grinders. The date, however, of these publications is full 20 years back, and since that time some improvement has been made, especially owing to the use of the fan, and in the pen and pocket blade trade to the substitution of wet for dry grinding. But the condition of many grinders, especially fork and other dry grinders, of whom numbers still do not use the fan, remains the same as then, and I accordingly extract from those publications a few of his statements, as apparently equally applicable to such grinders at the present time, especially as more now work with steam power.

4. *Fork Grinders.*—At that period (*i.e.* from 1820) one-fourth of the number employed (*i.e.* of those over 21 years of age) died every four years, a rate of mortality exceeding everything previously known in any branch of manufacture, or in any pursuit or occupation. * * *

Comparison at certain ages out of 1,000 deaths above 20 years of age.

Ages.	England and Wales, 1830–39.	Sheffield generally, 1837–41.	Fork Grinders.
From 20 to 29	160	184	475
„ 30 „ 39	136	164	410
„ 40 „ 49	126	158	115
„ 50 „ 59	127	155	—
„ 20 „ 60	549	661	1,000

This trade had, in 1820, 80 adult workmen, and in 1841, 97 (with 100 boys, 39 of them between the ages of 10 and 15). * * *

It is found on examination that amongst the 97 men about 30 are at this moment suffering in various degrees from the disease peculiar to this occupation, and which is known by the name—grinders' asthma.

Razor Grinders.—The adult workmen employed are 275,* and of the following ages:—

From 21 to 25 - - -	102
„ 26 to 30 - - -	52

* * *

Of the 275, 154 are actually under 30 years of age, and above 45 only 20. * * * *

Deaths at particular ages out of 1,000 at all ages above 20:—

Ages.	Razor Grinders, 1822–42.	Sheffield generally.
From 21 to 25 -	121	94
„ 26 „ 30 -	215	90
„ 31 „ 35 -	209	85
„ 36 „ 40 -	204	83
„ 41 „ 45 -	137	80
*	*	*

Among this class of grinders 749 out of 1,000 die under 40 years of age, but in the town only 352, actually less than one-half. * * *

We are anxious that these facts be clearly understood, anticipating that the time is not far distant

* The number of apprentices given at that date is 123. In 1858 the number of men and boys was 444.—J. E. W

when the legislature will deem it necessary to interfere to arrest the progress of evils which admit to a considerable extent of remedial measures. * * * The razor-grinders, in common with grinders generally, labour under peculiar hardships. In consequence of the destructive nature of their pursuits they are mostly excluded from the advantages of sick clubs or benefit societies. * * * And be it remembered [their so wretched physical condition is one] which is not the inevitable result of the occupation, but arising principally from the want of a system of ventilation, neither complicated in its mechanism nor expensive in its construction.

The facts which measure the rate of premature death measure also the misery and disease which precede it. The transition from health to the grave is not a single step. * * * * According to these (*here omitted*) returns one-third of the artisans (*e.g.* from the age of 23 to 30, 22, from 31 to 35, 25, &c.—J.E.W.) are actually suffering from disease (arising from the occupation) and which in its advanced stage admits of no cure.

The circumstances which abridge life fall also with peculiar severity on the young employed in the trade. (*Vital Statistics of Sheffield, by G. C. Holland, Esq., M.D.*, 1843; *and Mortality of Grinders, Part III., by G. C. Holland, Esq.*, 1842.)

WHEELS IN SHEFFIELD.

5. The case of a child of 8 years old (b. No. 6), engaged in work of a specially injurious kind, needs a short notice in addition to his own statement. His pale face and squalid dress show his body to be as uncared for as from his manner and answers his mind seems to be. His father, with whom he works, was away (late on a Wednesday afternoon), and, if my conductor was right in his belief, drinking; to which habit the employment of so young a child at such work was attributed. The work on which the boy was engaged when I saw him—viz., grinding cast metal scissors—is of just the same kind as cast fork grinding, the unhealthiest kind of grinding known, and he had no fan. It was mournful to feel, as from these facts, read by the light of other evidence, I could not help feeling, that this child is almost certainly doomed to much suffering and early death, probably at latest by the age of 30, perhaps much earlier; and that this sacrifice is in no way needed for the public good, but might easily be avoided by common feeling and care on the part of a parent. The wheel in which this boy and Nos. 7, 8, and 9 work, viz., the Soho, a public wheel, is stated by Dr. Hall to be a "first class wheel" and one of the largest wheels in Sheffield. It appears to be *the* largest as to numbers. (Cf. No. 2.)

6. *William Henry Widdicombe*, age 8.—Am grinding metal (*i.e.* cast) scissors on a dry stone. Glaze for about a couple of hours in a day, and grind dry the rest. There is no fan. Work for father, who is a grinder in this hull. Was 8 last May, and have been here now (2nd November) six months.

Cannot read. Sometimes go to St. Stephen's church. Don't know who Jesus Christ was, or if He was a man; I've never heard about Him. (This was repeated two or three times in answer to my attempts to get the knowledge out of him in other ways.—J.E.W.)

7. *James Higgins*, age 7.—Come to the wheel every day at 12 to wipe knives for grandfather. Stay here till about 4 or 5 o'clock. Never went to school.

8. *George Greaves*, age 15.—Grind scissors, wet, and glaze. Have been at it five years. Went to work at 8 years old, putting scissors together. It was at a factory. Have had this cough ever since the flood. Was turned out then at night without clothes and all wet, and have never been well since. It hurts me a good deal up here (top of chest) and often. Was well before, except when I had the dropsy at 4 years old.

[Puny; looks full 3 or 4 years younger.]

9. *William Holt*, age 20.—Grind gimlets and bracebits, and sometimes skates. Am grinding dry half of the day or more. Feel the dust in my stomach here (chest), but no pain. Can taste it in my mouth when I get home at night; that's just when I do taste it. Cough up black stuff then, and in the morning also before coming to work.

Have no fan. It would be better to have one, but I am not my own master. Master doesn't have one for himself. If I were my own master I think I should have a fan in this trade.

10. *Thomas Darwin*, age 6.—Grind bolsters (on a dry stone) and glaze in the Globe wheel with father. Don't know how long I have been at it.

[Another boy says that it is nearly a year. His working so young was attributed by a man acquainted with the grinders to his father being given to drinking.]

11. *Thomas Darwin*.—Grinder at Globe wheel. Am father of that boy (a. No. 10). Have had him with me at work about three months. He comes and goes when I do. The wheel runs from 7 to 7 most days, and till 8 on Friday. He grinds on the dry stone and glazes, but grinds the longer of the two. Began myself when I was 8 years old. The work is obliged to suit my health, else it wouldn't.

12. *William Brown*.—Cast fork grinder at same wheel. Began this trade at 10 years old. Worked a many a year without a fan, but for the last 18 have had one, and should not like to work without it now. Have found great benefit from it, and any one would that works dry. Before I had it I used to feel the dust upon my lungs. Now I can work full days and am pretty well for health. Am hoarse now because I have a cold on me. Have been in a sick club 24 years and only had three weeks pay out of it; am now 47.

My fan works for my three troughs, for the dry grinding, glazing, and all. There is a deal of dust from glazing. It cost me 35*s.*, and 18*s.* more for fittings. There is only one gas light in the hull, the man on the far side lights his candle.

Have known boys begin the fork trade at 7 or 8 years old, but I wouldn't take a boy so young myself. Reckon that 12 or 13 is as soon as boys are fit to begin this work, but there are many as send them younger. Have had one come to me as young as 12, and he had been at the same job with some one else before.

13. *Joseph Else*, adult.—Fork-grinder at same wheel. Began this work at 8 years old, was not 8. Worked the full day then and only went away to dinner.

14. *Joseph Sanderson*.—Fork-grinder at Sanderson's wheel, Carver Street. Grind steel forks part of my time, perhaps a third, and metal forks the rest. The hull is very small and the five troughs crowded side by side as close as they can be. There is a fan which acts for all the five troughs. It was put up by the proprietor, and with the fittings complete for all the 10 workers cost probably about 5*l.* We do not pay anything more for it. This used to be required sometimes I believe, but now fans are more common, and I do not think that they are charged for.

There is no comparison between working with a fan and without. Men did not live beyond 35, and now there are some as old as 60. Have worked with a fan for the last 15 years, and am now 49.

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15. *Thomas Roebuck.*—Fork-grinder at Askham's wheel. Began fork-grinding when I was 10 years old, and have been at it 28 years. In 17 years I have only had one week's pay out of two clubs, but such health at this work is unusual, and I've always been very steady. Boys however don't ought to begin before they are 14. They get strong by then, and know what the thing is, and can use every precaution. I had two boys, but I told their parents they had better take them away, and I have none now. If they begin young they go off like dyke water, so quick. I know one that began at 8 years old. He was quite fresh up to 17 and died at 19. His lungs were completely gone with the grinders' complaint.

The cast fork grinding is a deal more pernicious than the steel. At the former the average age of grinders is only 28, Dr. Calvert said. I don't think that above eight or nine have worked beyond my age.

About five years ago I put up a fan for two troughs at my own expense and find great benefit from it. It cost me 4*l.* 10*s.* But when I work hard I feel a pain in my side still, because you cannot get rid of all the dust.

We find all our implements, *e.g.* stones, bands, &c., everything in fact but power and fixtures, for ourselves. The rent paid is 6*s.* a week for two troughs, or 3*s.* 6*d.* for one. This is the general way all over Sheffield. The grinder's average time of work in Sheffield is nine or ten hours a day.

The cast fork grinding forms a separate trade, and is done in Sheffield alone. There are 84 men and between 40 and 50 boys in it, about a dozen of them, say, as young as that one (No. 16), *i.e.* 10. I know the numbers, because I have been a collector, and as such have gone round to all. There are about 34 or 35 men, and not more than a dozen boys, who are steel fork-grinders. This is a more particular job. It is done more in the country than in the town.

I have never known any one killed at the work, though I have known two or three lamed, *i.e.* break a leg and so on. Sometimes a stone flies out. This is very dangerous if it is a boy at work, because he has not sense to get out of the way.

16. *John Sale*, age 10.—Glaze forks at same wheel. Have worked at it two years. Come to work at 9 and 8, and sometimes at 7 and 6 a.m. All this week have come at 6 a.m. and worked till 9 p.m. An hour for dinner, but no breakfast; get us breakfast before coming to work. Have no tea; not when I stop till 9. Feel very hungry without it. Earn about 5*s.* a week, and give it to uncle.

Haven't been fit to go to Sunday school. Think I am going at Christmas.

17. *John Brown*, age 15.—Fork-grinder at same wheel. Have been a grinder five years. Dare say I grind nine hours a day usually. Wear these glasses to keep the dust from my eyes.

[The sparks keep firing the board in front of him all the time.]

18. *Patrick Stavin*, adult.—Fork-grinder in Shirtcliffe's wheel. Began grinding forks, cast metal like these, at 9 years old. Boys are generally about 9 or 10 years old when they take to fork-grinding. First they learn to grind on a stone, then to glaze, and afterwards finish like a man. All is done dry. Master made me work the full days, *i.e.*, on the average 10 hours, always from quite the first, and on Friday till 8 p.m. He was often off himself, perhaps for a whole week. His being off made more for me to do. He would say, "Now rush in and get on with the work." When I was older I had to work harder to make up for the man being away, but when I was a young boy if master was away I used to skulk too if I could. Of course if we skulked we had to fetch it up.

There is a fan in this hull, and it is fitted to my trough, but I don't use it; the pipe is choked up. It would cost me nothing but perhaps half a day's labour of my own to clear it, but it is only a pot pipe, and would never draw well, and would soon clog up again at the bend. It should be metal.

I have had a "very deal" of cough, especially lately, and have been complaining to mother about it and the pain in my back for the last three weeks. Was at soldiering three years. Am not so well now as then. Am 25.

19. *Thomas Rider*, age 11.—At the same wheel. Now hollow augurs. Am always on a dry stone. Have no fan. Began fork-grinding when I was going in 10. Grind from 6 a.m. till 5½ p.m. every day, and till 4 on Saturday.

20. *George Hobson*, age 19.—Grind joiners' tools on a dry stone all day. Work for a master. Have no fan.

Cannot read at all. Don't know, I'm sure, how many pennies there are in half-a-crown.

[A boy of 12, who glazes in another hull, has been at the work 3 years.]

21. *Henry Shawe*, age 10.—Work in Bacon's wheel, Holliscroft. Have been in a wheel more than a year. Am buffing table knives. It makes my back ache.

22. *John Holt*, age 13.—Glaze and polish at Wade, Wingfield, and Rowbotham's wheel. Get 3*s.* 6*d.* a week. First went to work at 6 years old as engine tenter, and had to make the fire up. It was at another wheel, and it went from 7 a.m. till 7 p.m. usually, some days till 8, and some days till only 6; about the same hours as it does here. Father is a spring-knife cutler; he did not work at the same place.

Was at school before I went to work and go every Sunday now. Cannot read very well, but can read a bit and write.

23. *William Attersby*, file grinder at Globe (Unwin and Rodgers') wheel.—We file-grinders grind wet. My stone looks so dry because if I had much water it would take the cut off the stone too much. It is not at all healthy work. I feel 20 years older than I did 7 years ago. I began at 10 years old and am now 39. File-grinders' average age is only 32. I know this because I was asking our secretary the other day what it was now. I buried one brother at 29, another at 39, and my father died at 36; all three were file-grinders. One brother died of the grinders' asthma, the other broke a blood-vessel. He was working too hard in Bull week, and hearty like me when it happened, and we buried him the Sunday afterwards. He had always done his self with work, like me. It's very hard work; I could make myself sweat at it in the coldest day in winter; look at the sweat now. The father of my lad there died of grinders' asthma too. He had been about a twelvemonth going off.

I am pretty strong for a grinder, but I only work 7 or 8 hours a day, though the wheel runs 12. The handkerchief over my face is because I have the tic.

I am obliged to be off work for a week or so sometimes, but never have a real illness. I often feel tight across the chest, and when I get up in the morning am what we call "coughing and barking."

We find the files much more unwholesome than they were formerly. They put so many more things in the steel now; "physic" we call it. A kind of nauseous smell rises from it. Cheaper the steel is, and the more physic it has. That is the only way in which we can account for the difference. The common kind

for rough work is the worst, and there is a great difference as to the kind of file.

My lad there (b, No. 24,) grinds the rough scale off the files, "horeholding" we call it, for me before I grind them. That is more injurious a deal, but I am obliged to let him do it, else he would be no use to me. He does it all day, never no change.

The stones will fly sometimes, especially if the engine goes too fast. When you go to a new wheel you put a big pulley and regulate the pace of your stone till you get to know the pace of the engine. A good engine will run pretty well one pace. This is one of the best engines in the town, but three years ago the governor got wrong. A man happened to be racing his stone, and this made such a noise that it was not noticed that anything was wrong. My stone flew out of the door and across the yard there, and knocked a hole in the wall of the shop opposite. The two men who usually work there were not in, or most likely it would have killed them. You cannot help stones breaking sometimes, *e.g.*, if there is a hole in it, but having plates, like mine has, instead of wedges is a great thing. (The boy's stone has only wedges.—J.E.W.)

The mites are very bad for our eyes. I have been so with them that I could not sleep for nights. I have seen me called up at 3 or 4 in the morning to take them out grinders' eyes. That man, who came just now for me to take his mite out, has come to me three or four times in a night to do it for him. Sometimes they burn so much more than at others. I do not wear glasses because I cannot see to work in them.

The wheel runs 60 hours a week; on Thursdays and Fridays from 7 a.m. till 8 p.m. It stops an hour for dinner, but not at any other time, and on Saturday it runs from 6 a.m. till 2 p.m. with no stop, and we only just leave off long enough to get a bit of breakfast.

There is no question but a fan would do a great deal of good at wet grinding as well as in dry, if we could have it. But so much wet flies off the stone that a fan would not carry off. You can see how thick it cakes on the board opposite. In a short time it will be as thick as that (9 inches).

[Though "pretty strong for a grinder," this man had pale hollow cheeks, and seemed to have some difficulty in breathing. He is, I was informed, one of the most intelligent men in the wheel.]

24. *George Stevens*, age 15.—Grind files for last witness. Began file grinding for father at 8 years old; was going in 8. Did not work a full day for some months. Am hoarse, but have always been so. Feel no pain anywhere and can breathe well.

Was getting to reading at school when father took me to work. Go to school on Sundays.

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25. *Joseph Travis*, file-grinder, now in-patient at the Sheffield Infirmary.—Till 12 years old I helped at farm work, and it would have been a good job if I had kept to it. I then went to file grinding. It is a destructive trade, though the grinding is done wet. It works in two ways. First, you must stoop over it so, and have all the weight to throw from the chest, and it is very heavy work. Some files are 13 or 14 lbs. It is not as if anybody were working loose and free. Besides this, it hurts the breath, owing to the steel and the smell of sulphur. The steam rises, especially when you take up the file to look at it, and the steam has stone and iron in it, which get inside you and set there like steel itself. You can taste it as plain, and spit as if you were spitting steel.

Till the last four or five years I worked pretty regular, but not so much since on account of my health, though till within the last two or three years I have been right enough in summer time. But I ought to have given it up some years ago. By 40 it had got hold of me, the asthma, we call it; there is no remedy for it. Before that I had not found it so much, but always after working hard I had felt the steam in me and found my breath bad. I was pretty steady in the fore part of my time, but have drunk my share for the last 20 years. Drinking, however, has, I think, nothing to do with it. I have seen some "go off" without drinking, and others, who have drunk hard and worked hard, go on longer. There are only two or three men, I should think, in the trade older than I am, viz. 55. They seem to rot off at 34 or 35, and some at 23 or 24, according to their constitution.

Those who begin young must be taken hold of more than those who begin later. A lad ought to be strong constitutioned for it, and 14 or 15 is plenty soon enough. Some go at 13 or 14, and I have known some put to it by 10 years old, but they don't ought. It's their own fathers have put these young ones to it, and they (*i.e.* the boys) have been ruined before manhood. Consumption seizes them when quite young men, and they go off like nothing. I have had a many boys working for me, as many as 5 or 6 at a time when trade was good, and I know how they have gone off in constitution. There's a many of these that's dead as young men; I cannot say how many, but nearly all.

"Racing" a stone makes such a dust that you cannot see in the place. It only ought to want doing when the stone is new, but it all depends on the stone; it may be wanted oftener. You can put something over your nose and mouth when racing, if you like. "Hewing" the stone also makes a deal of dust, which rises at every stroke. It is done while the stone is standing still, so that the dust could not be got rid of by the fan. The stone is never carried outside the hull for this. Sometimes a stone will run a full hour without needing it, sometimes half, but as the stone gets less it wears off quicker. Small stones are handier for small work. Boys work at smaller stones, taking off the rough part of the files for their fathers, who finish them on the larger stones. The boys' work is more rougher and sulphury like, because a sort of shale comes off.

Stones are of all sizes, from 4, 5, or 6 feet diameter down to 20 or 18 inches or less. A common useful size is, perhaps, 4 feet. Some are a deal kinder than others, and would get down a foot in no time, *e.g.* a 4 foot stone a foot off in a week, and a smaller in less time.

The floor in a wheel is generally nasty and damp. There's a many take cold from their feet being continually wet: that's a great matter with 'em. But it might be easily kept clean and dry with a little extra care and trouble. I always made my men keep the side clean, and had a little channel close by to let the water run in. Some wont have a dirty place, and some think it too much trouble to avoid it. They ought to be forced. Some too can make dirt at any business, and at this some keep themselves clean, and some get very wet in the chest and thighs. Another thing that leads to colds is that some of the hulls are very cold and draughty. There is sometimes no window, *i.e.*, the panes are all broken out. Some may be broken by accident, or sometimes men smash them in summer time because it is so warm, or at other times because the panes are so dirty and hinder the light. Windows might, however, be made so as to open: When they are broken the men won't repair them and the landlord won't. In such a place in winter, what with the draught of the stone and the cold of the metal, I have seen the things all over ice that thick, if you have left it a short time, so that you have to break off the ice to begin again. But there is usually a good fire, which the landlord finds out of the rent. There is no comparison between working in a warm and cold place.

Some are very dangerous nasty places in winter time from want of light, and accidents are more likely to happen in consequence. Some grinders have gas, *i.e.*, if they pay for it and the fitting themselves; and they are gainers by it, as they can do their work so much better, especially if it is fine and wants close

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watching, *e.g.* scissors. Others have candles, put in a small box to keep the draught of the stone away.

Wheels are a good property, but there is a deal of room spoiled by making the most of it for getting rent. This is paid according to the amount of power and the kind of trough used. They reckon about 6*s.* 10*d.* a-week, or 17 guineas a year, for a trough for one file grinder. Small things are much less.

There is many a time that accidents happen. At one manufacturer's a file-grinder got caught in a band some way and was killed there and then, before ever they could get the engine down. It pulled him limb from limb, and they had to pick him up in a basket.

Boys after a few days become able to throw a band off, not so well, however, as a man, because they have not the proper power perhaps, and there may be some cases where it is not advisable for a boy to do it. There is no difficulty in boxing off the machinery, except the drums ; these could not be got at if they were covered. The machinery which caused the accident just spoken off had been ordered some months before to be boxed, but it had not been done. The machinery, drums, and troughs are of much the same kind in all the different kinds of grinding.

Some things, as forks, are ground all dry ; and some, as scissors, edge tools, bracebits, only in part. Where there is much "roll" wanted, as in forks and in the shanks and bends of tools, &c., and hollowing out insides, the stone must be very hard, and therefore used dry. The fan is the best invention that ever was, I should say, if attended to, and it is not difficult to keep in order. There are, I should say, now going on for 400 dry-grinders, most of them in Sheffield, and a few at water wheels in the neighbourhood. I remember when there not above 60. Perhaps, with boys and all, there are nearly 500 now.

In the file-grinding trade the hours are usually from 7 a.m. till 7 p.m. in summer, and in winter from 8 a.m. till 7 p.m., and sometimes before Christmas till 8 or 9 p.m.

File hardeners work in factories, and the files are likewise scoured there by women and girls, and are then ready for wrapping up. The scouring is hard work for girls.

26. *Edward Sotheran*, scissor grinder.—Now a patient in the Sheffield infirmary. Began scissor grinding when between 9 and 10, and am now 27. Ground the scissors on a stone, then lapped them on a lead wheel, and afterwards glazed them. Did not begin to finish till I was 13 or 14. The doctor said that it was working on lead that caused the weakness in my wrist. It had felt weak for two weeks before I had to leave work. Another who worked at the same wheel with me said that his hand was just the same.

When I was about 15 or 16 a cough came on me, and when I was about 18 I had a pain in my back when I coughed. Thought I should "go off." Left work for about eight weeks then, and have been very weak ever since, but I can get on with my work. At the Union wheel, where I was two years, there was no "fanny" in my hull. Was at a smaller wheel, where we all did the same work, the rest of the time. There was not a "fanny" about the place there. The "properietor" would not let the master have one, because it made such a noise ; we should have had one else. I think the master once axed. He (the proprietor) was such a queer chap ; he would soon tell any one to go out of the place if they were not satisfied with it.

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27. *John Mason*, edge-tool grinder at Beardshaw's wheel.—Some of my work, such as I am now doing, viz., grinding certain parts of chisels, must be done on a dry stone, but this does not take more than an hour or an hour and a half in the day ; the rest is all wet grinding. Brace-bit grinders will be grinding dry for a whole day sometimes. I began many years ago, very young, and have worked in five or six different wheels, but never had a fan in any. It is the best plan that ever was invented. The reason why grinders do not use it more is that it is a bit of expense. A fan for this hull, with pipes for each of the 12 troughs, so as to give the benefit to all, would cost about 10*l.* perhaps.

There is one of the most extraordinary ideas here that ever was. The windows, which have all been put in lately, are made so that they will not open. If you came in when we were hanging and racing a stone, neither you nor any man living could see us for the dust. It hangs about for an hour afterwards. Grinders are in the habit of breaking windows on purpose. I have seen men sit at the back of the hull and try how many panes they could break at once by throwing things through. That rough class, however, is now fast dying out ; they will not do now. We have a very respectable set in this hull.

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28. *Samuel Ellis*, plane grinder at Ward and Payne's wheel.—Began grinding under father when 9 years old. My younger brother there, now 17, did not begin till he was 12 ; a second son is not allowed till then, if the eldest is grinding for his father. The wheel starts at 8 a.m. most days. On Saturdays it starts at 7½ or 8, and does not stop till 4 p.m., but we just leave off work on Saturday to take some dinner ; could not work more than four hours without. When I began I could work all day if I did not hurry myself, and worked harder as I grew older.

Got hurt once at glazing ; the horsing was not properly fixed, and slipped and let me through down on the glazer. Was off work a fortnight for it, but not at the hospital. (Coughs). Have no cough, and nothing the matter with my throat.

Could read, write, and sum once, but now cannot write or sum, and cannot read a deal.

[Has a loose cough.]

29. *Henry Liddell*, age 14.—In same wheel. Grind bolsters on a dry stone and glaze. Have been in a wheel three years. Went to cutling at 8 years old and went errands.

Cannot read a deal.

[A grinder stated that this boy "has had a "hard bringing up. His father was a "great drunkard, and the boy has had to "live with his grandmother since two years "old."]

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30. *John Henry Wright*, age 14.—Grind files in Peace and Ward's wheel. Work from 7 till 7 ; the wheel stops for an hour at dinner but at no other time. Take dinner here. Work for father. My arms are very tired at night, and my back aches a very deal, but not my chest or in front.

Worked at cutlery with grandfather before, making scale tangs ; he kept two boys besides. We began at 7 a.m., and reckoned to leave off at 7 p.m., but seldom did so till after 8, or perhaps till 9 ; it just depended ; sometimes we worked till 10 p.m.

Was never at day-school, go on Sunday. Cannot read, only spell. The Queen makes the money.

[Face splashed from the grinding.]

MESSRS. JOS. RODGERS AND SONS' WHEEL, NORFOLK STREET.

31. This wheel, which is separate from the principal manufactory of the firm, is one of the best class. The hulls are light and lofty, but the wet grinding makes the floor sloppy. Fans are used here by men when grinding dry. One of them had fitted a fan also for the benefit of his apprentice, who polishes; but it is not now in use. It is said that the draught cools the metal and prevents it polishing so easily. It appears, however, to be desirable for the polishers, the branch at which boys usually begin, as well as for the grinders. An intelligent and experienced grinder here stated that he had known many youths to have the grinders' disease who had never ground, and he attributed this to the dust of the crocus powder, a preparation of iron, used in polishing, which is seen flying off from the wheel, and settles in front of the worker, and also finds its way into the nose in considerable quantities.

32. Other kinds of work, *e.g.* forging blades, making handles, and other general cutlery work, are carried on on part of the same premises.

33. *George Swift*, age 16, polisher.—Have worked in a wheel for four or five years. Work for my grandfather here and live with him, and get 9*d.* a week to spend. Work from about 7½ a.m. till from 5 to 6 p.m., and Saturday till about 3½. Get ten days or a fortnight's holiday at Christmas, three at Whitsuntide, two at Easter; sometimes on other days, as Good Friday, Shrove Tuesday, or the Fifth of November, and half a day on quarter rent days. Have good health; can breathe and eat well; have no pain anywhere. Am as well as when I was at file cutting.

Cannot read a deal. (Spells short words wrongly.) Have written in a copybook a little. Can do two or three sums. Glasgow is a state where the Indians live. Scotland a place where strange people are. A Scotchman comes from Ireland. Do not know the Queen's name. (*Asked by a grinder*, "Is it Mary?") Think that is it. Never looked on a halfpenny, or took notice there what it is.

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34. *Samuel Sharpe*, razor grinder in the Union wheel.—There are several processes in razor grinding, viz., grinding on a dry and on a wet stone, glazing on a wheel covered with emery, lapping on a lead wheel, and polishing with crocus powder. The fan is not ever used for wet grinding, and I do not see how it can be. There would be such difficulties of detail in applying it, nor is there anything like the same need for it as in dry grinding. It is the dry dust which is so injurious. Fine particles, however, do rise even from the wet stone, and if a fan or any other mode for carrying them off could be invented it would be a great benefit to the health of the grinders. This is my decided opinion, but I do not see how it can be done. There must be something in front, like that board, to catch the spray which is thrown off, and to let it run back into the trough, or we should lose the water. If the surface of this were glazed it would soon become caked over, and just the same as the board; and even if that could be prevented in any way it would dash the spray back in our faces. It is true that it might be put further off, and also that perhaps some means might be found of keeping up the supply of water in the trough without catching what flies off. But what injures us in wet grinding is not the spray which flies to the front of the stone, but the fine particles which rise under our faces. I do not see how these could be carried away. If a strong draught were caused there, being admitted from the back of the stone, it might be too much for us. Even polishing with crocus makes a dust which is inhaled. If a person who has been working at it spits or blows his nose he can see this very plainly. I have worked with a fan for dry grinding all my life. One fan which I put up for my three troughs here cost me about 5*l.* This does for all the workers, *i.e.*, two or three at each trough. The cost of fitting a fan will, of course, vary with the situation of the troughs; some might cost less. I have always had good health; I never had any asthma, or felt any difficulty in breathing in going quick up hill. In fact, I may say that I am perfectly well. I began the work at 11 years old, and am now 47. The usual age for beginning razor grinding is from 10 to 12. I have known some begin younger, as at 8 or 9 years old, but this was generally under their fathers. If boys begin the work young it takes more hold of them. I have had several apprentices, but never took one under the age of 14, except one of 13, and he was a fine lad for his age. When they begin very young, for the first six months or so part of their time is taken up with running errands, &c.

The horsing is too wide for young boys to sit on, and must be so on account of the width of the trough beneath. The usual width of the flat top of the horsing is about 14 inches. This wheel runs most days, with a stoppage of an hour for dinner, from 7 till 7, on Fridays till 8 p.m., and on Saturdays from 6 till 4.

There is, I think, generally a want of inclination amongst boys who work at grinding to attend night schools.

35. *Edward Armitage*, age 16.—Polish scissors in the same wheel. At 12 years went to grind hay forks; ground dry all day. The wheel ran the same hours as this. Like this work better than that. Found the dust on my stomach, and the mites got in our eyes.

Was never at a day school; don't often go on Sunday. Have just begun to go to a night school three nights a week; pay 1½*d.* a week for it. Can't read at all. Can't count what 7 times 5 is. There are 38—are 36 halfpennies in 18 pence. Don't go to church or chapel on Sunday. Can't tell what they call the Queen's name.

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36. *George Hobson*, razor grinder at Turner's wheel.—Have worked with a fan for many years. They are a great savation to a man's health, but take a great deal of trouble to keep in order; only razor grinders and some fork grinders use them. Never saw a brace-bit grinder with one, though that work wakes as much dust as any. No country grinders use them, I believe, and in the town not half of those who grind dry or partly dry use them.

Have not very good health. Get a sup of drink; should be better without it, if any one could persuade me to do so.

37. *Mr. James Bingham*, manager of the razor grinders at Messrs. Wostenholme's manufactory.—The grinders here pay about 3*s.* 3*d.* a week each for a trough. Most of them put up fans for themselves; where they are put up by the master a further weekly sum is charged to the grinder till the cost of the fan is paid off. The only men who do not use them here are some who came from country wheels. Fans, I believe, are not much used there. Certain parts of the razors must be ground dry. To grind these parts on a wet stone would take so much longer time and wear down the stone so much. For pen blades much of the dry grinding has been done away with, but no such change has been made with razors. A razor grinder only grinds dry a small part of his time. The grinder shifts his stones as required, and puts water in the trough or not, or raises or sinks it to suit the kind of work. When I was first in the trade the average age of razor grinders at death was 34. Now it is much raised by the fan, and we have some men of good age. The effect of the work depends very much on the temperance of the grinders.

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38. *Mr. Joseph Mallinson*, secretary to the razor grinders.—The average age of razor grinders at death has been taken at different times, and usually estimated at 36, but it is now, I believe, 42. This change is owing to the more general use of the fan. Temperance and steady habits make a great difference to the effect of the work on the health; but I do not think that there has been much improvement in the trade as regards these. The health is more affected also if a boy begins the work when too young. I consider that 14 is as early as it is fit for boys to begin it; but have known boys, though rarely, put to it so young as 8 and 9. The youngest boys are usually working for their fathers. Besides the dust, the constant leaning over the work, which is necessary, is bad for the chest, and injures the digestion also very much. If boys begin too young they are stunted in growth, and sometimes even deformed and bow-legged, from sitting upon the horsing, which is too broad for a young boy. We are trying to fix a rule that boys shall not begin razor grinding till the age of 14. This is, of course, partly for the sake of the trade, but is also because it would be better for the health of the boys.

A person seldom finds the bad effects of the work till about the age of 20. I was 28 when I began to feel them, and I had begun work at the age of 14. I found difficulty in breathing, and had pain in the chest. I have now left off working three years, and there is a great change for the better in my health.

The fan could easily be applied to any kind of work in which dry dust is produced. I used it myself even at polishing. In grinding the kind of razors of which the largest quantities are made a man will be, perhaps, only an hour or so in each day working on the dry stone. If a grinder has a boy the boy will do more of the dry work than the man. Boys begin with glazing and polishing. The fan is used by many dry grinders, but by no means by all; I cannot say by what proportion, but should think that perhaps 7 out of 10 who do dry work do not use it. I attribute this more to the neglect of the men than anything. Steady men generally get one for themselves, but they may suffer from others who work near them and will not use it. A fan fitted for a single trough will cost about two guineas, and for a whole hull, with six troughs, perhaps four guineas.

There are now 276 men and 109 boys in the trade. The boys are from 21 years of age down to about 12, and a few younger. About 10 hours is reckoned a day's work. In country wheels grinders, if behindhand, sometimes make up time by running longer, working *e.g.*, from 6 a.m. till 9 p.m., and not stopping the wheel during the day, but just getting breakfast and dinner and then going on again. One grinder was in his wheel when the flood came, *i.e.*, at 1 a.m., and was swept away. If a man has a boy and is working long, he will often want the boy to work the same as himself.

I visit nearly all the wheels in Sheffield, though I have not worked in them but in the country. In some I have seen the bands and machinery very indifferent for safety. Few accidents happen from this cause in the country wheels, such as I have worked in on the Loxley and Rivelin streams; accidents of this kind are generally from carelessness, and men in the country do not put their sons on to work so early as they do in the town. I account for this by men usually being more frugal in the country, as there are not so many temptations to spend money, and so they can afford better to do without their sons' work, and to keep them at school a little longer, and the boys are altogether better cared for. But in the town, lads brought up to the wheel get a very poor education. Then they have so many ways of spending money, and they may be seen congregating in the street in the day, settling probably where they will go in the evening.

39. *Mr. Jonathan Wragg*, secretary to the table-blade grinders.—Table-blade grinding is the largest of all the grinding trades. It includes knives of several kinds, *e.g.*, butchers' and shoemakers' knives, and nearly all large blades. As secretary to the trade I am well acquainted with its details. There are 700 men and 200 boys under the age of 21 engaged in it; of the latter a full third probably are over the age of 18. The usual age at which boys enter the trade is 12 or 13, and they are then apprenticed till they are 21. Many however simply work under their fathers. The master usually boards and clothes his apprentice, and gives him a little pocket money. As a rule the apprentices are well fed, clad, and treated, though there are of course exceptions. Both sides will sooner submit to a good deal of inconvenience than come before a magistrate. But such cases are not uncommon, *e.g.*, when a boy runs away, or a master ill treats him. Some, however, are more unfeeling than others, and set boys down to work sooner; this is usually the fathers themselves. I have known some put to the work as young as 9, but none younger. There is not much difference as to the age of beginning in the different branches of grinding. Even in saw grinding, which is the heaviest kind, and in which therefore boys, as a rule, begin rather later, light jobs can be found at which a boy of 12 or 13 is of service. Though there are several different grinding trades, grinders of all kinds work at the same wheels indifferently. The number of wheels in and near Sheffield has, I should say, on the whole, fully doubled in the last 20 years, though the number in the country round has rather diminished, some of the wheels being turned to other purposes, such as corn mills, and no new ones built. I could myself find 100 in Sheffield. The hours for which the engine runs are much the same in nearly all, viz., Mondays from 8 to 6; Tuesdays from 8 till 7; the next three days from 7 till 7, or in some cases till 8 on Fridays; and Saturdays from 6 till 3; the engine stopping in all from 12 till 1 for dinner, but at no other time. It would be well that it should stop for half an hour at tea; perhaps a quarter of an hour is taken. Men cannot work longer if they wish it, as the engine will not run. But few work the whole time. On the average, I should say, men do not grind more than nine hours a day Boys are sometimes at work while the men are away; there is sadly too much of this, as men come in at all times, and some days not at all. But on the whole the boys do not work much longer than the men. Table-blades, like articles of most kinds, are ground partly on a dry stone, partly on a wet one. It is only a few things which are ground only on the one kind of stone, *e.g.*, files and saws on a wet stone only, and forks on a dry stone only. In work done on both kinds of stone, some kinds of articles need much more of the dry stone than others do. A table-blade grinder doing all his work himself will spend only a small part of his time, perhaps half an hour or so in a day, in dry grinding. It is lads' work, however, this dry business, one of the first things you put them to; so that if a man has a lad the lad does it, and if the man has more than one trough a young lad will be longer at dry grinding, according to the number of the man's troughs; it may be as much as four hours in a day.

Fans are not used at all by table-blade grinders, as so little of the grinding is dry, and the stone used is of a very hard kind and not so destructive as the soft kinds used for some other things, *e.g.* razors. Indeed, I do not know of any wet grinding in which fans are used. Dry grinders, however, work in the same room with wet grinders, but one of the latter, *e.g.* a file grinder, likes to get as far as he can from one of the former. The dust of his neighbour is no doubt an annoyance to him. I have never myself found much inconvenience from either my own or my neighbours' work, except from the noise made by stove-grate grinding in the same hull, which is very great. No doubt if the windows were close, like those of this

sitting room, I should feel great annoyance from the dust.

Table-knife grinding, however, though mostly wet, is less healthy than trades which do not involve grinding. Asthma is the chief complaint from which the workers suffer. I have read Dr. Holland's book, written 20 years ago, so far as it relates to this, and I believe that it would apply equally to the present time. There are however some grinders who keep at work till a good age, but it depends on constitution, habits, &c. Boys, however, should not go to a wheel under 14 years of age. The doctor said that their little lungs were not fit to take in the bad air and dust. I should very much like to see Government take this point up, and forbid boys working in a wheel younger than 14. That is why I so cheerfully give what information I can.

If they began at 14 they would be quite trained as regular workmen by 21. Indeed, as a rule, I always see that those who do not begin very young, say till about 14, do not give half so much trouble, and get on much better with their work. I see no reason why at that age they should not work in wheels the same full time as the men, *i.e.*, at work suitable for them.

The state of many of the wheels as workplaces is very bad, and requires the notice of Government almost more than anything. I have often to travel round to most of them, perhaps 50 in a week, and there are very few in which I have not been. Some are more like dog kennels than anything, and not fit to work in. Their chief faults are that they are too low, have not width or room enough, have not nearly large enough windows, and have no free ventilation. The dust therefore cannot get away, and some of the places are also close in summer, though the draught of the stones makes some current. Many are very cold in winter. The men break out the windows because there is so much dirt from the work upon them, and they have not enough light. It would, however, I think, be better to have no windows at all, so as to let the dust out and air in; or, if there are windows, which are desirable in cold or rough weather, they should be made moveable.

It is quite unnecessary that the floors should be so wet and sloppy as they are, and which has a great deal to do in causing rheumatism. The floors could easily be made so as to let the water run away, and asphalt put down, &c., if the proprietors were only obliged to make the place more commodious. It is, of course must be, dirty work, and the clothes are liable to get wet, but a man can change them, and a boy is chiefly on dry work, glazing, &c.

Another great want is that of light. There would not be half the accidents if all wheels were well lighted by windows in the day time, and particularly at night by gas. It would be a great improvement if this were made compulsory. Some wheels have gas, at others men work with candles. Working by a bad light is bad for the eyes, but men must put up with it because of the expense. A man cannot well have gas and a meter for himself alone, and others might not be willing to share the expense. One man perhaps does not care to work after dark.

The expense of making wheels fit to work in and comfortable would be so small that it could not increase the rent enough to matter to the grinders. It need not increase it at all, for at some of the best arranged and most comfortable wheels the rent is as cheap or cheaper than at the worse. Some of the worst are the small places in which a master has his work done on his own premises.

There is a deal of danger from the machinery, especially with very young boys, and even if they are as much as 12 or 13 when they come. There are some kinds of accident which can never be helped, but most arise from shafts, bands, drums, and cog wheels being not guarded enough; generally from the shafting. Not long ago a file-grinder was killed from being entangled in a part not properly boxed off, and I have known many cases of accident arising from the same cause. A boy is shown at first coming how to throw his band off, but in a day or two he gets to do it by himself. Sometimes it is an apron or some loose part of the dress that catches and draws a person in, and girls have been drawn in in the same way when merely going into the wheel, *e.g.*, with some message.

There are not nearly so many fatal accidents now as formerly from the stones breaking. Using plates, often 18 inches across, to fix them on the bar on which they turn, strengthens them, and is much safer than the common old way of fastening the iron in with wooden wedges, which were apt to swell from the wet. There may be flaws inside the stone which cannot be seen till it is too late and the stone breaks, but a careful looking over and tapping to try by the sound is of course some safeguard. Sometimes there is a doubt, some thinking that a stone looks or sounds all right, so it must be a matter of opinion then.

A needless danger is incurred where the fire-places are set close up to the grinding stones, and I have known fatal accidents from the breaking of stones owing to this. Grinders are in the habit of sitting by the fire at tea or in stoppages of their work, and for some of their work, *e.g.*, setting the blades, they must go up to the hearthstone, there being no other convenience for such work. They are a deal more secure in this repect in waterwheels in the county, as the fires are not so close up. Land is not so dear as in the town.

One of our chief annoyances in the work is getting "mites" into our eyes. Much the worst mites come from the dry stone. Sometimes we buy a lad a pair of spectacles, or put something over the horsing to keep the mites out of the eyes.

The putting of boys by their parents to work so young as many are put, and other faults, are in my opinion chiefly owing to the want of proper education. If children were more educated, the vice and intemperance, which I am sorry to say now prevail too much, would be to a great degree removed.

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40. *William Dyson*, formerly a scissor grinder. When quite a young man I lost the sight of both my eyes by the scissor breaking and piercing one of them. That was 33 years ago, but since the loss of my sight I still spend much of my time in wheels, and am well acquainted with the grinding trade, and have supplied much information on the subject for medical purposes. I do not think that on the whole there has been much improvement in the health of the grinders. It is true that the fan, where used, takes away much of the bad effect of the work, but it is only very partially in use, and the men have now to work longer hours. The regular trade hours at wheels are from 7 till 7, or from 8 till 8, and the men cannot work longer, as the engines only run for that time. But the men work very irregularly, some not more than three days in the week.

The fans are dsed in some but only in a few places. Taking Sheffield through, not one hull in three has them; most of the fork grinders have not. If there is one which the men can use, they often do not, and if you ask them why they do not they say, "What do "I want with a 'fanny?'" "A short life and a merry "one" is their rule. When it is used, the pipe is put up by the men themselves, at their own cost, and if a man has the thought to put one up he generally has the thought to use it, but it is only the more thoughtful who have. Those who have put them up and used them at their own wheel complain much of the inconvenience which they suffer from the dust, if, as sometimes happens from an accident, &c., they have to go and work at another wheel where there are none. But others do not seem to mind.

Some of the wheels are in a very bad state; killing shambles, I call them.

Taking the whole trade, boys begin grinding in

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the light branches at 10 or 11 years of ages. In the larger factories it is not till older, as these are better conducted and the morals higher. As regards education, I will be bound that, taking the trade as a whole, not one in three can read when they come to the wheel, and I tell you for why I say so; if a man wants to get a boy who can read he can hardly ever find one. More of the men can read, so the boys must pick it up somehow afterwards, not, however, by school, except a little at Sunday schools, to which some masters force them to go. It is chiefly by three or four getting together and trying to read a bit of something like songs or that.

COUNTRY WHEELS.

41. The grinders' wheels worked by water power are on the banks of streams in the neighbourhood of Sheffield. Seven which I visited in the valley of the Porter, a small stream running down to Sheffield, and at which the evidence from No. 45 to No. 54 inclusive was taken, present, as I am informed, a fair sample of the country wheels and their work. On one stream, the Loxley, the wheels, with other large works, were utterly swept away by the great flood of this year (1864). All the seven are small places, the largest having only about 15 troughs, and the smaller much fewer. The work done in them is of several kinds, including saws, files, edge tools, table, shoe, and butcher knife blades, &c. The nature of employment is much the same in all, chiefly wet grinding.

42. On entering the largest wheel the smell of the steel dust from the greater number working together was at once noticeable. The hours of work are usually short, especially in summer, owing to the want of water. During the late dry summer some have only been able to make 13 hours a week. This gives a great advantage, as far as health is concerned, over working in steam wheels. Long work, however, occurs (No. 53).

43. In some of the seven the state of the work place is very defective. In only two of the seven are the large cog wheels at the back, which work the machinery, protected. Almost certain death must result were a grinder thrown upon one of these wheels, as he is liable to be by the bursting of a stone. In one case a man was thus thrown on to the boarding with which the wheel was happily covered. In some cases the bands also are more or less covered with boarding, but in most not. The danger from exposed machinery is greater in wheels worked by water than in those worked by steam, as the amount of power in use is not so well regulated. The amount required depends of course upon the number of grinders at work. When one stops he throws his band off, thus increasing the speed of the other stones. Great speed is dangerous, as it is likely to make the stones fly.

44. The mode of regulating the amount of power is by a shuttle pole, or long hanging handle, by means of which more or less water is admitted to the outside wheel as required. The shuttle pole is in the charge of no responsible person, and it is regulated by mere guess work, according as experience suggests. Serious accidents happen from this not being properly attended to. A grinder showed me his old "horsing," a large seat of wood, which, though fastened down by massive chains, as is usual, had been torn up by the bursting of his stone and flung to the back of the wheel. It was then lying outside as lumber. The boy, whose proper place of work was in the same trough in a line behind him, had providentially left his work for a few minutes when the accident happened.

45 *Benjamin Wildgoose*, shoe knife grinder in Shepherd's wheel.—I am sure something ought to be done for grinders. They dont oft live long. One is an old man at 40. The places are so cold, and the work makes such a draught, that it is very dangerous when you have been sweating. I am pretty well myself, but I have taken care of myself. I began at 9 years old, but I gi'ed over a bit and went to school, and did not begin fully till 12; I am now 44. There are some terrible grinding places in the town.

I have had the stone fly with me once or twice. It would very likely throw you into the cogwheels there (unprotected); with all the machinery it is very dangerous working at night as we have only candles. I scarcely ever work after dark myself.

46. *Samuel Hind*, grinder at same wheel.—Began when I was 10 years old, am now 54. Once was caught by my apron on the axle, and thrown down. Have had five or six stones break in my life, but have had very good luck, and was never much hurt.

Call 10 hours a long day's work. Eight hours a day is quite enough for any grinder to work. It is very injurious to health.

47. *Thomas Redfern*, grinder in Over Endcliffe wheel.—In about 18 years I have had 10 stones break under me, two of them on two days running. Once I was thrown right up to the top of the wheel and was much shaken by the fall. About a year ago my horsing was thrown by the stone flying right to back of the wheel, and I was thrown forward and struggling on the top of the stone. The boy behind me there (No. 48) was away, but would have been at his work in 10 minutes. If he had been there he might have been killed. I have never been lamed, but have had bad shakes, cuts, and bruises, and lost as much as a week's work by such an accident. It shakes you very much. I have had a cut six inches long across my back and others on my legs in this way. A man who was thrown against the boarding over the cog wheels at a wheel below (*See* a. No. 50) was at the dispensary 9 or 10 weeks for it, and had scarcely returned to work when his stone flew again. But he was not careful, and was working by himself, and let the wheel go too fast.

In steam mills too the machinery sometimes goes too fast, which is dangerous, as stones will stand a certain pace but not beyond.

Till I was a man I did not have any stones break, as boys do not work so much at the big stones, but I had been fixed much the same as my lad there when my horsing was thrown back, and had, I should think, five or six narrow escapes. Once a like accident happened when I should have been at my place behind in a few seconds. Stones fly backwards and forwards and all ways. We try the stones by looking and tapping to see if they are safe, but cannot always tell.

48. *Henry Birkin*, age 13, in same wheel.—Glaze and grind on a dry stone; grind dry for about an hour a day. Never work after dark. The wheel does not stop at dinner time; we only stop work as long as we can get us dinner, about a quarter of an hour. Can read a little.

49. *George Redfern*, grinder in same wheel.—Began at the wheel here at 10 years old; it was too young. When I was about grown up I went to grind for 18 months in Sheffield and felt worse directly. The smells were bad there, and I got no out-door exercise. Felt generally ill and weak, and found difficulty in breathing. Lately I came out here again, and felt better again at once. Am sure that I can earn more and be better out here.

When I was 9 years old I went to work at cutting notches in sickles in a small factory at Norton, a village near Sheffield.

[Looks delicate, with a pale flush in his cheeks.]

50. *John Brigg*, grinder at the Nether Endcliffe wheel.—No water wheel is safe. If the shuttle pole is not attended to properly it puts too much power on. The pole here was marked with a scale to show how much to raise or drop it for each band that is put on or off, but we do not attend to the marks, we do it by the feel, and allow so much (about an inch) for each band. About 18 months ago William Calton, a grinder here, was thrown by his stone bursting on to the boarding over the cog wheels at the back, and was two or three months at the infirmary. Half of the stone flew up to the top of the wall here in front, half behind, and the horsing out on one side.

51. *Samuel Warner*, age 19, grinder at Lescar wheel.—Have been a grinder 10 years. Dare say I was under 9 when I began it; was working under father, and in Sheffield.

52. *Joseph Broadhead*, age 10, at Lover's wheel.—Am glazing saws. Work with father, usually 7 or 8 hours a day. Always stand at the side (of the glazer) like this. There is no fan.

[Though I stood beside the boy, and rather behind, sharp particles kept flying into my face.]

53. *Walter Ibbotson*, age 16, fork grinder at Ibbotson's wheel.—Began when 14. Work 10 hours a day usually, many times 15. Am now hoeing the stone to make it cut. Do it for about 5 minutes in each hour. The mites get in my eyes and hurt them. We get a lancet and some one gets them out.

[Better grown than usual amongst grinders; probably, as my conductor informed me, because he had a steady father, and did not begin work so young.]

54. At Spur wheel, the largest in the Porter valley, the cog wheels, though unprotected, were in a recess and more out of reach. A youth of 17, in answer to a question whether the work suited his health, said—"Oh yes, I have never been ill *yet*."

RAGG'S WHEEL, ECCLESFIELD.

55. This also is a country wheel, a few miles from Sheffield in a different direction. Water power is used when obtainable, but when it is not, work is continued by means of steam power, which has been lately provided for the purpose. The wheel is occupied only by fork grinders, of whom about half, viz. four, are boys between the ages of 11 and 14, of whom the eldest had been at the work for three years and the youngest nearly a year. Though the building is now occupied by only half the number of workers that it had formerly, the air is full of the particles given off in grinding and glazing, as shown by the strong smell, even on my first entering the doorway. "You will be able to taste this dust when "you get home, and to-morrow too, though there is very little stirring now to what there has been," said one of the grinders to me. On weighing some forks of the average kind, it appeared that 11 unground slightly overweighed 14 glazed or finished.

56. The defective state of the work place and want of sanitary arrangements are described by one of the grinders (No. 58). The light is very imperfect, even by day, and more so after dark, at both of which times I was in the wheel. Each grinder places beside him a dip candle in a rough wooden box, open at one side and the top, which serves to screen off the draught. The work, however, needs close watching, and imperfect light probably brings the face closer to the wheel, and therefore to the dust, than would be otherwise necessary.

57. While I was in the wheel a grinder complained that the pace was too great, and gave directions to have it slackened, for fear the stones might fly. A serious accident happened here from this cause, the stone flying and dashing in the mouth of a grinder.

58. — *Tingle*,* fork maker and grinder.—I began the trade at about 13, but my father would not let me work at it long together on account of its bad effect on the health. He was in the fork trade, and carried it on, on and off, till he was 40 or 50, but it is not many that can so long. It is very pernicious work, and it is reckoned that our average age, if we work at it regularly, is about 28. No man, if he considers his health, should work at it more than 6 or 8 hours a day, but the less time a man sticks at it the better. I am now only 37, but I only come down to the wheel about two hours a day, and go to shop the rest of my time and work at the making, because I find the wheel so injurious to my health. When I feel a bit sickly at grinding I know what it is, and keep to the shop till I get shut of it. I tell the boy who works for me about this dust, but he thinks nothing of it, though he is a clever, quick boy. We reckon to eat all the fat we can in the morning, such as bacon, &c. This dust here if mixed with a little water will set as hard as cement, and you can fancy what it must be inside a man. What comes from the stone consists of the grit of that and the steel, and what comes from the glazing wheel has the emery and the glue with which the emery is fixed on the leather. The glue being so sticky makes it more pernicious. The dust which comes from "metal" as we call it, *i. e.* iron, of which the common cast-iron forks are made, is more pernicious than the fine steel. It is a deal softer and comes off more easily. I have seen men's shirt sleeves all yellow and rotted away from the dust which settles on them. I believe that, taking a fair average of the different kinds and qualities of forks, they lose a fourth of their weight in grinding and glazing. Much, however, depends on the care with which the rough fork is made. We here, who make and grind our own, forge them as clean as we can, so that there may be as little as possible to grind off, but often this is not attended to when they are ground by others.

A fork grinder has just gone into the Sheffield Infirmary with a leg broken by an accident. He was so bad with the grinders' disease that the doctors said he could not live till New Year's Day, the stuff had got so settled into his stomach and air pipes. They gave him something to vomit it up and it came up in big lumps as hard as iron. If he gets better it will be the breaking his leg that saved his life. He began grinding at 10 and had done nothing else all the time; he is now 38.

There are no fixed hours in the trade. We are all manufacturers ourselves, and work as we please.

Boys begin the trade generally at, I should say, about 12 years old. If I were to bring up my own children to it I should put them to it a little to learn at about 10, just to get their fingers in, but not to work. To make a good worker a boy should begin by 13; one who did not begin till he was 16, and his fingers were stiff, would always be a slow worker. I should think that there were as many as a couple of hundred fork-grinders in the trade, about a quarter of the number boys. Most of the work is done in Sheffield, but some in country places like this.

This wheel is a low, bad place; a man would not live two years working here every day for 12 hours.

* The witnesses of this name are members of two or three different families, J.E.W.

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He would be clean blown up. There is no ventilation but the windows in front. They never had glass in them in my recollection. In winter it is very bad. The wind blows all the dust right back in our faces. There is no fan. Landlords and owners of wheels ought to put them down for us. It is a very trifling expense. One might be put and fitted for all the troughs in here for 5*l*. They are put in some places, but some boys are put to grind in little chambers as dusty as possible.

59. *Charles Tingle*, age 21, fork-grinder.—Used to file insides of forks when about 8 or 9 and began in the wheel at 13. Am not very well, but am better than some ; it suits nobody's health. It's not very warm in here no time, not in summer, and in winter it is very cold indeed. A wind always comes off these wheels behind us. We reckon to work from 6 to 6 here. At a wheel at Grimesthorpe, a village near here, they work the same hours, but a shorter day on Monday.

There ought to be a fan. If there were, we should have to pay for it. They are all prices, from 30*s*. upwards. At some wheels the landlords put them up and charge for them with the trough. The rent for my trough, with places for myself and a boy, is 3*s*. 3*d*. a week, and we find our own candles, &c.

All this dust in my trough has come since last Saturday. People fetch it away every week to mix with lime for mortar, as it sets so hard. Had this stone new five weeks ago, but it is worn so low that I shall want a new one on Saturday. Have to chip it several times a day to make it bite.

60. *John Brook Greaves*, age 14, glazer.—Was apprenticed at 12 for 9 years. We are apprenticed to find you clothes and something to eat ; that's all. Always have plenty of good meat to us dinner. Master is middling kind, and does not hit me except sometimes when the work is not done very well. Do not get any money, but sometimes master gives me a chance of "addling" (handling ?), *i.e.* earning something for myself by doing more work. Our regular time for working is now from 7 a.m till 7 p.m., and on Friday from 6 a.m. till 8 p.m., and have an hour for dinner, but no other meal time. Have to get breakfast as sharp as we can, *i.e.* in about 10 minutes. The other three boys work the same time as I do ; two of them work under their fathers. There have been as many as seven boys in here at a time. There are 12 troughs. At a wheel half a mile off there are three boys, one apprentice to a fork-grinder and two working with their fathers as file-grinders. There are three fannies there. Only three men work in here regularly. We use water in winter and steam in summer, so that the wheel is always going except at dinner. It is very cold in winter, but we can manage to work when we are used to it. There is a fire.

Am well, and can get my breath easy. The dust makes no difference to us. It is not very heavy work, but your back is sure to ache when you do much work. Never had a cough at wheel before this last week, when I have had a cold. Spit a good deal. Suppose that is to get the stuff out. (*Spits repeatedly though away from his work*). The dust gets into my hair, and I have to wash it out nearly every night ; a deal comes out, and you can see it in the water, it is so muddy. They sparkle to us eyes very bad ; that's the worst thing there is in it. It pains a deal, and I have had to leave off working many a time for it. We can take one another's "mites" out of our eyes with a sharp pin, and soon cure them with putting in sugar and milk and so. It is never abune a night before they are better. If we are careless we may get caught in the band ; it has pulled my shirt sleeve off, but not hurt me or any one here.

Go to school on Sundays, and have been on workdays and all. Am not a very good writer, but can read pretty well, *e.g.* a newspaper. Would be a very good summer when I went to school, but it is so long since that I do not remember the names of any.

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61. *Keziah Bouldin.*—My husband was apprenticed to fork-grinding when about 14, and worked at it and at fork-making for many years. When about 27 he had to give it up owing to the scarcity of work, but after three or four years took to grinding again. In about a year or so he got the grinders' disease so bad that he was at home six months with it. It was thought that he would die, and his life was only saved by the greatest care, and the doctor said that he must never grind again ; but he is very weak and never will be right no more. Another grinder at the same wheel, Ragg's, who was ill at the same time, did die. When it once gets fair hold of them nowt can save them.

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62. The next witness works at home with a girl of 15, a relation, in a scullery, filing the insides of forks. She also cuts the forks in a shop near with a fly or press to separate the prongs after they have been forged and stamped into a rough shape by men. The forks are then brought into the house and "opened out," by heating in the fire of the living room, to enable the file to work between the prongs. The filing is laborious, and requires a constrained and fixed leaning position.

63 (1). *Ann Tingle*, age 20.—Have filed insides at home here since I was 9 years old. Had practised many a time before I began regular work, perhaps since I was about 7. Have worked all the time about the same hours, viz. from about 7 a.m. till 8 p.m., stopping perhaps two hours altogether for meals and doing things in the house, and on Thursdays and Fridays generally work till 9 and 9½ p.m., and sometimes begin early on Saturday, *e.g.* at 5, to finish the work for taking in to Sheffield. Take in on Tuesdays, and Thursdays too sometimes. Have worked while 12 at night, but never longer ; but my two sisters, who used to do the same work here, have worked all night, I believe. There are five families round here who do fork-filing in the same way ; two of the daughters in each work at it ; only two of them are 18 and the youngest 9 or 10. There is another part of the village where girls file forks. All work about the same hours as I do, I believe ; but some till 10 two or three nights a week. Since I have been at work there have been no fixed hours of work, but before that people were obliged to work only for fixed hours, from 6 to 6, I think ; this was because there was a union then which fixed the hours.

Filing is very hard work, and we could not do it without this leathern band round our wrist to help hold the file. It tires my wrist and shoulder, and must tire the other girls the same. They can't help. Sometimes too it gives me pain in the front of my left side, as we have to lean over, not right forward, but side-a-way, so (*showing*). I generally have to cut in the shop about 4 hours every day. It does not tire me so much as filing, but it is rather awkward, because I have to stretch myself so to reach the fly, and brings a pain in my side. The pain may be partly because I catch cold going from the warm house to work in shop where there are so many draughts, and I have just got a severe cold in going to Sheffield to sell the forks. We do not have to carry them all the way, but only about the town from where the carrier leaves them, from one street to another to the different shops. We may have four gross, and a gross weighs from 14 lbs. to 16 lbs., according to the size of the forks. We carry part, however, to Sheffield ourselves, some two gross, but I can't carry more than one gross so far. Some girls only work for hire, and these do not have to carry the forks to sell as we do. We find the steel and pay men so much a gross for forging. A girl of 18 working for hire may make 7*s*. or 8*s*. a week by fork-filing, and one of 12 or 13, 5*s*. or 6*s*.

File-cutting is the chief work in the village, and

is done by men, women, girls, and boys, and all. They work just as they think proper. I think it is not a healthy business. They don't reckon to live to a great age if they work at it regularly. Some cannot use their left thumb. Two young men next door cannot. This is from the pressure of the chisel, and I dare say that the lead on which they cut is injurious to health.

63 (2). *Sarah Ann Tingle*, age 9.—Live in a house near. File forks at home all the afternoon, not in the morning, because I have a little baby. Begin at 2 p.m. and give over at 10, generally about 9; may give over afore 9, but seldom; sometimes at 8. My sister, about 14, begins about 7 a.m. and gives over when I do.

Was never at any school but on Sunday.

[Dress torn, and shoulder left bare. Healthy looking.]

NEEDLE FACTORIES AT HATHERSAGE.

64. This is a retired country village in Derbyshire, 10 or 11 miles from Sheffield, but contains three factories. The principal manufacture carried on in them is that of needles and hackle pins, though one of the factories includes also the making of umbrella furniture or iron work. Hackle pins are the sharp steel wires used for combing flax, but, so far as the nature of the employment is concerned, there is no important difference between the manufacture of them and of needles. The chief processes are drawing wire to the required thickness, hardening and tempering, and straightening and cutting it into lengths, and, lastly, grinding the points, and scouring or polishing.

65. The most important of these, as regards health and the precautions needed, is the grinding. The grinding is all done on a dry stone, which revolves at a very great speed. A number of wires are held in the hand and ground at the same time, and the quantity of sparks and dust thrown off is very great. On approaching the principal manufactory, while still at a distance of 70 or 80 yards, I could smell the steel dust, and afterwards at this and the other two factories noticed it rising and floating away like a thin cloud of smoke or steam from the places at which it is discharged from the buildings. Outside the principal manufactory was a large mound of considerable extent and height formed by the accumulation of only two years.

66. The arrangements made in all the three factories to guard the workers from the deadly effects of this dust are very good, and deserve notice. The top of the stone is covered with a damp cloth, wetted fresh every morning, leaving only the few inches of the stone which the grinders requires uncovered. At the back of the stone a wide-mouthed pipe at the top carries off a large portion of the dust. Another pipe at the bottom carries off a further portion which has escaped the top pipe. The dust is sucked into these pipes by a powerful fan, and blown out from them by another through an underground flue leading outside the building.

67. This concentration, however, of the dust at the outlets renders some further arrangement necessary to protect persons outside, or neighbours, from its effects. The prevailing wind carries the dust from one factory on to a workshop and cottage close by. The Messrs. Cook contemplate making a reservoir of water at the outlet of their flues, which they believe will to a great degree prevent the further escape of the dust.

68. The Messrs. Cook have also provided flues to carry off the dust caused in glazing hackle pins, and this appears highly necessary.

69. It should, however, be added that, in Hathersage at least, the employment of grinding is one which affects scarcely any but men, and only a limited number of these, the work requiring great skill, and an apprentice rarely beginning till the age of at least 15. The effect on health is stated to be much less if they do not begin till they are grown up. For, notwithstanding all the care, some dust still escapes, and, in the opinion of the grinders, is injurious to health.

70. The great pace of the stones is a source of danger. In two of the factories I saw broken stones, which lately had burst and flown through the roof, happily doing no further injury.

* MESSRS. COOK AND CO.'S, NEEDLE, HACKLE PIN, AND UMBRELLA IRON MANUFACTURERS, HATHERSAGE.

71. *George Burrows*, needle pointer.—Began this work at 14 years old. Worked for 14 or 15 years without a fan, and for the last 20 with it. No one would believe the difference it makes; without it I always felt sick and a tickling in my throat, and as if I wanted to throw up something; then went and got some stuff to help it, and would throw up a deal of dirt. It is a very good thing for you to be sick. It is a very good thing too to take exercise, it gets the dust and phlegm out. There is still some dust which we breathe though with a fan.

["A chap at this work in Sheffield," said another grinder, "lately threw up a piece "of black from the steel dust as big as "the end of your thumb."]

72. *Maria Lansley*, age 9.—Use a hand-fly for shaping umbrella ribs. My hours are from 6 a.m. till 7 p.m., with an hour for dinner, and breakfast and tea half an hour each. Have stopped at work till 8 p.m. and about twice till 9, and sometimes leave at 6 p.m. We don't ever work in the dinner hour. Get 2*s.* 6*d.* a week. Have to hold up my arm so high always to work the fly; it makes it ache sometimes, and makes my right side hurt too.

73. *Thomas Scholefield*, age 11.—At work here two years. Head and box the wire in a shop where it is hardened; my sister here, aged 13, does the same. Work from 6 a.m. till 7 p.m., sometimes till 7½, and it has been till 9. Sometimes stop to work in dinner time. Get 3*s.* a-week.

MESSRS. COCKER AND SON'S, HACKLE PIN MANUFACTURERS, HATHERSAGE.

74. *Mr. Joseph Robert Cocker.*—Any regulation of our hours not exceeding the factory limitations would make no difference to our business. We employ no females and few young boys now. When we made needles, which we do not now, we had a number of both. We have some boys engaged in

* A statement made by Mr. Cook, received back from him too late to be inserted in this part of the evidence, is printed in the end. (*Vide* No. 296.)—J.E.W.

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Sheffield District.
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Mr. J. E. White.
a.

scouring wire and one in cutting it. We generally let boys become accustomed to handling the wire in other ways before they are set to pointing; that is usually at about the age of 15.

A brother of mine invented the fans now used for pointers. They are now used by Government for different purposes, such as pumping air into ships. It is a very considerable expense to us. The one which we use for our 10 pointers cost, with the apparatus complete, 100*l.*, and besides this it takes three-horse power every day to work it. It drives the air through a tube of some inches square, at the rate of six miles per minute. I never calculated how much dust it carries off in a day, but 20 lbs. weight of steel with the average kind of work would be ground down to 15 lbs., and in some kinds to 14 lbs. The benefit to health is very marked. The men used to die at the age of from 32 to 48, and the oldest grinder to be found in the trade anywhere, I believe, was 40; now they are, I should say, decidedly as healthy as men in any indoor employment, *i.e.*, those of them who began work since the fans were in use. Some others, who began before, are still liable to be affected by the work. The men themselves well know the value of the fan, and if it will not work, as through a strap being off or anything, they would not keep on two minutes, and I could not persuade them. Our grinders only work six hours a day.

MESSRS. CHILD AND CO'S., HACKLE PIN MANUFACTURERS, HATHERSAGE.

75. *Mr. Marsden*, one of the firm.—Our pointers only work from 8 till 4, less the dinner hour. We use the fan, and the only unhealthiness of the work arises from the intemperance of the men. When they are intemperate it makes fearful work with them.

The great speed at which the stones must go for this work is a source of danger. Lately a stone burst and flew out through the roof. I do not know the exact speed of the stones, but it must be several thousand revolutions per minute. We use water power, but it is so arranged that a child could regulate it. There is an apparatus for testing the pace; if it makes more than a certain number of clacks in a given time it is known that the power is too great. As soon as ever one man throws his band off the others go and regulate the power accordingly.

76. Dr. Hall, in his treatise already quoted, also gives his medical notes of a few late cases of the Sheffield grinders' disease, out of the great number that have come under his treatment in his private and also his dispensary practice. Short extracts from two or three of these cases will be useful. They show that the causes of the disease are by no means confined to dry grinding alone.

77. *Case* I., *A. D.*—Pen and pocket blade grinder. "Has always worked on a wet stone," but "razor "grinders have worked in the same hull with him." "There is no fannie in my room, nor about our "wheel." "It (hæmoptysis) has frequently recurred, "and he is always attacked with it after racing a "stone." "The chest measures 30 inches and ex- "pands only to 30¼ inches."

Case II., *J. G.*, aged 31, scissor grinder (dry).—"First went into the wheel when 9 years old. He "has had attacks of shortness of breath at intervals "for years, but got on very fairly till about a year "ago, when he was seized with profuse hæmoptysis."

Case III., *J. S.*, aged 44, file grinder (wet).—"Has several times had hæmoptysis." "With the "exception of the little bits of stone and steel dust, "there was nothing to distinguish the expectoration "in this case from what is observed in the flocculent "sputa of an ordinary case of phthisis."

Case IV., *H. L.*, aged 53, razor grinder (dry).—"He is about 5 feet 4 inches. The chest measures "32 inches, and expands to 32¾ inches." "Died three "months after admission to the dispensary."

Case V., *H. W.*, aged 28, pen-blade grinder (wet).—"Complains of shortness of breath, cough, night "sweats, and loss of flesh."

Case VI., *F. C.*, aged 19, a razor grinder (dry).—"The disease had made considerable progress; he "had been in the wheel from an early age." "He "died two months after admission."

Case VII., *J. H.*, aged 21, a table-blade grinder (for the most part wet).—"He stands 5 feet 3½ inches, "and weighs 8 stone 7 lbs." "His father, a table- "blade grinder, died of the grinders' disease at 39, and "his grandfathers, on both sides, died of the grinders' "complaint. Does not think consumption was ever "in his family." "He works mostly wet; the bol "sters of the table knives are ground dry. He suffers "very much from dust when they race the stones, "which fills the hull with dust."

STEEL AND OTHER MANUFACTURES.

Steel.

MESSRS. T. FIRTH AND SON'S, STEEL MANUFACTURERS, SAVILLE STREET EAST.

78. *Mr. Charles Henry Firth.*—We convert and melt steel, and manufacture it into ordnance, shot, and for all general purposes. We employ somewhere about 1,200 persons in our works here.

Most of the machinery runs night and day, and there are relays of men and boys on the usual system. The machinery stops half an hour for breakfast and an hour for dinner. The meals are taken punctually. The men arrange the "heats" so as to suit for this. About 22 or 23 boys work in the cellars beneath the melting furnaces. Their day consists of three rounds of melting.

The boys are employed by the men, who often engage them much too young. We fix a price which we can pay the man for so much work, and he gets it done as cheap as he can. Sometimes they get some so young that we think it a shame, and are obliged to send the boys away. This working of very young boys is especially common in the crinoline steel rolling, and the trade has been very much cut up and spoiled by it. The crinoline rolling here only goes on by day, but sometimes a quarter of a day or so's overtime is made.

Besides these works we have iron and puddled steel works near Chesterfield, with the same system of day and night work in alternate weeks as here. The night sets have the advantage of working only five nights instead of six days.

We have also a file manufactory. That has only day-work, viz., from 7 till 7, with meals.

I think that it would be a very good thing if boys were not allowed to go to work so young as they do. In light work, such as crinoline rolling, 12 would be a right age for them to begin. After staying a year or two at work of that kind, they could then well go on to heavier work.

79. *George William Ross*, age 12.—Shove on at cold rolling, *i.e.*, of crinoline steel. Sometimes make one quarter over in a-day, sometimes two, *i.e.* half a-day, or 5 hours; but have not done so here more than once in a week. Sometimes take a night turn besides my day turn if I am wanted.

Have done the same kind of work at two other places before. At the first, where I went when I was 9 years old, and stayed a year, I once worked for three nights running as well as the days. We should have gone so, *i.e.* worked nights as well as days, to the end of the week, only the engine broke down. The nights were Tuesday, Wednesday, and Thursday. Was only allowed to sleep of dinner hours. I should

be tired when we had worked through a day and a night and got to the second day, and then I went to sleep at the dinner hour, and should not be tired again till we gi'en over. Had a dinner hour by night as well as by day. Three other boys worked the nights and days both when I did, one was 13, one 14, and one 15. Could not help working so. Was obliged to. Got the same pay for night as for day, no more. Earn 4*s.* 6*d.* a-week now.

Am I old enough to work think ye? I should like to go to school a bit longer instead of working. (Q. But you like work, don't you?)—No. I often get two or three cuts on my hand from the metal. Can read and write. Father sets me to it sometimes in the evening, and if I don't feel tired I can do as much as I've a mind. Some days I feel so tired I can do nowt at all, and some days I am not at all tired. It is because some days we have worked harder than others. There is night school sometimes, and I always go to it when it's open, and I go to Ebenezer on Sunday afternoon. I should like to go to school again a bit. Do ye think I can?

[A remarkably intelligent boy and of pleasing manners; one who, could he have had the schooling which he wishes for, would probably have turned it to best account and advanced himself in life. His appeals to me to be allowed to go to school, which he repeated in different ways, could not but be very painful.]

80. *William Ross*, steel-roller.—Father of last witness. I wish I could have let my boy stay at school a bit, instead of taking him to work, but I could not help it. It is true that he did work three nights running, besides the days, as he has told you. I had been very short of work, as I had only lately come here from Birmingham, where I rolled steel in the same way as here in two of the largest steel-pen factories.

[An intelligent man, and even superior looking. His keeping his child at work so hard was no doubt from a feeling of necessity.]

81. *William Henry Ray*, age 10.—Shove on at the rollers. Don't know how old I am, (an older brother is 11. J. E. W.), or how long I have been here; think it is a year. (Six months, I was told. J. E. W.) Stay at work sometimes till 8 at night, and sometimes till 10. Have half an hour for breakfast and an hour for dinner. Get 4*s.* 6*d.* a week.

Can read a-b ab. Go every Sunday to a school which has been opened in Brown's works (Atlas Iron Works).

82. *Henry Stow*, age 14.—Take out hot metal at the rollers. Work days one week, and nights another, from 6 till $5\frac{1}{2}$ always. Sometimes get burned with the hot metal. (Shows large scar on arm.) Went to work at shears at a cutlery manufactory when going 7 years old.

Can read a bit, but not write at all. Don't know of London, or Queen Victoria, or if she is a woman, or takes care of the country.

83. *James Oxley*, age 11. Cellar boy, and make lids. My proper day is from 6 a.m. till 7 p.m. On Monday I come at 4 a.m. one week and 6 the other, as both the yards cannot start at once. On Saturdays we come at 2 a.m. or 3 and give over at 3 or 4 p.m. Have no regular times for meals, but have plenty of time to spare in the day,—four or five hours. In part of that I have to carry out the waste from the furnaces, go errands for the men, raise the pots for them from below if they stick in the furnace, &c. It makes me sweat when I am carrying waste, or when I am busy in the cellar doing anything. Have been at this work here better than two years. Earn 4*s.* a week. The man gets all the money and pays those that work for him. Father puts some of it in the bank for me; I don't know how much.

Can tell some of the letters, not all. Go to church in a morning.

MESSRS. NAYLOR, VICKERS AND CO.'S, STEEL MANUFACTURERS, MILLSANDS AND WADSLEY BRIDGE FORGES.

84. *Messrs. Naylor and Vickers.*—We carry on the general steel manufacture, including forgings and castings in steel, and the manufacture of bars, sheets, &c. We employ between 600 and 700 persons, and are now building larger works near Sheffield, which cover about 20 acres of ground, our present works being too small for our business.

We prefer not to employ lads under 14, but to oblige our workmen we sometimes take them younger, though not younger than 11. Only 10 per cent. or so of all the persons employed, who are all men and boys, are under the age of 18. The boys work chiefly in the rolling mills at the back of the rollers, others at the forges, carrying away bars, and others, about 15, including five of the youngest, in the cellars of the melting furnaces. Their work is to watch when the pots run, which is the way in which boys are employed generally in the town in steel melting. They do not suffer from the heat. The temperature is probably from 80° to 90°. The remainder are engaged in moulding, pot work, lathes, and turning, or in the warehouse as errand boys, &c., and two or three at joiner's and mason's work. At the forges and in the rolling mills the hands work day and night in relays, but all other parts of the work are day work only, *i.e.*, from 6 a.m. to 6 p.m. In the forge the hours are from 12 till 12. Some of the hands always work in the nights without any alternation of day and night work. These arrangements of hours are made by the men according to their own choice. We do not find any difference in the health or work of those who work regularly by night and those who work by day, and probably people can sleep better if they have the same period of rest than if it is changed. The melters have to do three rounds of melting in a day. If it takes more than the regular time, they have to stay to finish, but they often get away in less than the 12 hours. We do not like the men to be actually engaged in work in any branch for more than 10 hours. It is not so good for them, and not economical to the employers. About 20 of the boys under the age of 18 work in the night sets. About a dozen of the boys are in the employment of the men, not of us; but it is understood that they are equally under our control, and it is the duty of the foreman to look after them. We could not well do without lads under 18 working by night. The objection would be the increase in the cost of production. But if the age were fixed a year or two lower there would probably be no difficulty. It could be arranged by merely putting the younger in the day sets. Skilled hands and the heads in every department are difficult to get, but of lads we could get any number. Boys under 13 get perhaps from 5*s.* to 6*s.* a week, and from 14 to 16 perhaps 7*s.*, though in work at which boys are apprenticed they get rather more. A smartish lad of 18 or 20 at the rollers will get 3*s.* a day. It is after the age of 16 that a limitation of boys' work would begin to make a difficulty as to wages. We pay one price to all below that age, according to their work, without regard to age. But from the small proportion of boys that we employ the subject (*i.e.* of restrictions on night-work by boys) is of little importance or interest to us.

We have the machinery as well guarded as it can be, so as not to interfere with the work. We have had only one fatal accident in 20 years.

The holidays at Christmas are less in the steel trade than in others, and do not average a week. Besides this there are two days at the two fairs, and a day at Whitsuntide. The holiday given, however, depends upon the state of trade.

85. *John Holmes*, age 13.—Heater at a forge. Work from 6 till 6, most on days (not nights). Never

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stay longer. Have half an hour for breakfast, and an hour for dinner at 12.

Before I was here, was a year at some large steel and tool works in Saville Street. There I sometimes worked nights as well as days ; on Fridays only. Went home to tea for half an hour ; then came back to work, and went home again at 12 at night for an hour, and worked on sometimes till 4 a.m., and sometimes gi'en over at 1 a.m. Other nights worked always till 8 or 9 p.m. except Mondays. Think that Mondays were the only nights that I gave over at 6, except when there was nowt to do, and they wanted to make another day. There I worked as apprentice to a man at a tilting hammer, "heating in," "straightening," and "taking under."

He used to reckon to buy me clothes and give me meat, but he was a drunken man and would not buy me clothes, so I left, and now get 9*s.* a week here. He used to swear at me and punch me with his foot if I didn't do a thing he told me, or if the heats were cold when he came back from the public. Here the man don't beat me because I am not "bun" (bound) to him. They can't beat you unless you're "bun," but then they can. That burn in my face was done by the man here with the "heat," but he couldn't help it. Don't find it hot; have always been used to a hot job. At my former place it was a leetle hot ; it was a leetle job.

Know most of the letters. Had to go to day school till father began to be bad, and go always on Sunday and to church. There is no night-schoo about our house now, but there is at winter when it's frosty and there's snow on the ground, and I go then and pay 6*d.* a week. (Is asked of Queen Victoria). Have heerd the name on it ; can't tell what it means. She finds 'em money. The Bible is the Holy Bible. Have not heard of the Testament, Gospel, Adam, or Jesus Christ. An angel is an image.

86. *William Amos Blithe*, age 13.—Am learning to be a mason in the works. Father is a master over the bricklayers. Was at school till 12 years old, and paid 6*d.* a week. Did sums as far as practice and compound rule of three. Read the Bible and History of England. Read about Henry 8th and George 3rd. Henry 8th had six wives.

87. *Henry Gregory*, age 13.—Cellar boy. My proper day's work is from 6 till 6, but it all depends. Sometimes have done by 4½ or 4 p.m. On Saturday come early, *i.e.*, at 3 a.m. and 12 at night (Friday) and so, and then get done by about 11½ a.m. Go home to my meals. Get 4*s.* a week.

Can read (scarcely). Can write better than I can read.

Steel and Iron.

MESSRS. JOHN BROWN AND CO.'S, STEEL AND IRON WORKS, SAVILLE STREET EAST.

88. These works, with the adjoining works of the Messrs. C. Cammell and Co., which are of like kind, are on a very large scale indeed, the two firms employing together towards 6,000 persons ; a small portion of whom, however, in each case are employed in works in the country at a distance from the head establishment.

89. The work includes puddling, forging, rolling, casting, and other processes. Some of the boys are exposed to considerable heat, especially some of the youngest. One, aged 10, a "holder up," stands a few feet in front of the furnance, and draws up the door when the hot metal is drawn out. The flakes of hot metal, which fly many yards round from the shingler's hammer, as well as hot metal or refuse lying about, require care. I noticed screens to catch such sparks put up near one hammer, and a man in another part with metal greaves to protect his legs. Masses of red hot metal, too heavy to be carried, are wheeled about, sometimes by boys. Just after my visit here a bad accident happened to a man at some works in the neighbourhood, from a man slipping while wheeling a red hot railway wheel, which thus fell and lay on him, he, of course, being powerless to move it. Boys also drag red hot metal from the rollers ; and some are "cellar boys."

90. It was stated that the steel rolling, which is only day work, is sometimes prolonged till 10 p.m., or begins an hour or two earlier in the morning.

91. *Mr. J. Ellis*, one of the firm. — Our work includes the manufacture of steel and iron and heavy steel and iron goods of most kinds. We roll large quantities of armour plate, and also make railway springs and rails, shot, gun forgings, &c. We employ about 3,000 men and boys, and our works here cover 15 acres of ground, besides other works which we have in the country. Part of the work, viz., iron and the heavier kind of steel work, goes on day and night by means of relays working 12 hours each, and part, such as other steel work, spring making, &c., by day only. In the heavy steel work only one or two boys are employed to a score or two men. The day is from 6 a.m. to 6 p.m., and the night from 6 p.m. to 6 a.m. In the day work there are regular intervals for meals, but in the iron working branches there is no certainty as to when meals can be taken. Owing however to the nature of the work, there are several intervals of rest, though seldom more than half an hour at a time. Meals are taken in some of these intervals and work begun again at once if it is ready. This necessarily must be the usual practice in iron works. The meals however can be got always within, say half, generally within a quarter of an hour of the proper times, viz., about 8½ and 1.

Most of the boys are in the employment of the men, *i.e.*, in those departments in which the work is done by the piece, which is in nearly all. Where the men are paid by the day, *e.g.*, in the steel and spring rolling, the boys are in our own employment. There is nothing in the nature of the work to occasion this distinction, it is quite accidental.

It is not at all necessary for us to have boys under the age of 12. It might be well to exclude boys under this age altogether. It would be better for them, and would make scarcely any difference in cost to us. We have upwards of 500 boys under the age of 18 in our employment, and of these about 170, or a third, are under the age of 13.

I do not think that it would be very objectionable to require that no person under the age of 18 should under any circumstances work more than 12 hours in the 24. But we do not think that any line could be drawn over the age of 12 at which boys could be dispensed with for night work. But we would sooner be prevented from employing boys under the age of 13, or even as high as 14, at all, than not be allowed to employ boys, that we do have, at night. Those boys who work in the day sets must take their turn in the night sets also, because men could not work in the night sets only ; it would ruin their health. In summer, however, they might perhaps have the best of it, as the heat in the day then is very great. We insist on their changing their set week by week. We have sometimes made exceptions, letting men undertake the night turn of others who were being hurt by it, but we have always found these men giving way in health from the night work without change. We think, however, that night work in alternate weeks is no harm. We find the men who do it as well as the others who do other work only by day. We like also, for convenience of the workers, to keep the same sets working together, as the food of a family can then be sent at the same time, and altogether it suits their home arrangements better.

Our objection to not allowing boys under 18 to work at night would be on account of the increase of expense, but this is the only reason. We think that the increase would be more than the trade, having due regard to its being successfully carried out, could fairly bear. Labour is scarce here, and might fall short if there were such a regulation. Still this might settle itself in time by workers being attracted from other districts.

We do not think that the work hurts the boys' health. It is hot, but they can often rest, and have plenty to eat and drink. We do not find them subject to colds. Nor do they suffer from accidents by machinery or burns. The worst is, say, the loss of a finger.

92. *William Crampton*, age 10.—Stand in front of the furnace here and hold up the door each time the metal is drawn out. It is hot work, but does not make me sweat so as to wet my clothes. Work days one week and nights the other. When I work days I have breakfast at 5 before I come, again at 8½, and dinner about 1, as I get a chance. Sometimes stop half an hour for it, sometimes 1½. Get five bob a week, 1*d.* for myself. Worked in a coal pit a long time before I was here. Was not 10. Before I went they asked if I could read.

Can read a bit (not well). Go to school twice on Sundays.

93. *William Strafford*, age 13.—Work in the cellar of a steel melting furnace, working clay for pot lids, and watching the pots to see if they run. Also go up into the shop above when the steel is teemed, skim the muck off the top of the pots, sometimes hold a pot while the man puts another into the furnace, and help the teemer. There are 20 pots in this furnace, and they are teemed three times a day, which takes about 20 minutes or so each time. Am the only lad in this cellar, but lads do the same in others. When I am treading the wet clay and work hard it hurts me so across the belly that I can hardly stand, and I have to put my hands to it and stop working to get wind.

Came to work here five years ago, *i.e.*, when I was 8, and after I had been here three or four months was wheeling a barrow and two carts came up from different ways and I could not get out of the way. One catched me under the chin and knocked me down and hurt my leg, and took two pieces of flesh out a finger length. Was off work for it six months and a fortnight, and in the infirmary all the time.

[Weakly looking. Pants for breath.]

94. *Allan Bunce*, age 16.—"Pull down," *i.e.*, drag hot iron away from the rollers with tongs. A big boy takes it out from the rollers. When they are long pieces I get a little boy to help me. Get burned sometimes. Have a burn on my elbow (*shows large scar*). Catched a lump against my feet, and fell on hot iron. Work a week of nights and a week of days. If we make 16 heats there is no spare time, but if we make only 5 or 6 we have time to play us. Have no time hardly for meals, but get them between times. Go straight home from work, and usually get 10 or 9 hours' sleep. We reckon to have 10 hours' work, stopping at 5½, but sometimes stay till 6½, sometimes till 8, because the iron is different, and the same men must finish what they have to do, but this throws the other turn later. Get 6*s.* 8*d.* a week.

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a.

Went to a coal pit when 9 or 10, and worked afterwards at wire drawing, crinoline steel works, metal foundry, and pottery. At most of these the proper day's work was 10 hours, but we used sometimes to make a quarter of a day, *i.e.*, 2½ hours over. At the crinoline steel I sometimes worked three shifts together when a boy was away, and others often did so too. At the wire drawing worked in the night shift also. Used to be very tired when doing so.

Can read a bit. (Not well.) Go to school on Sun days; never to a night school.

95. *Thomas Cook*, age 13.—Sit and hold the handles to drive a steam hammer. Work from 6 till 6, days only. Half an hour for breakfast, an hour for dinner.

Can read, write, and sum. At school till here.

96. *John Morris*, age 14.—Strike hot bars to straighten them. Work days one week, and nights the other, usually from 6 to 7 or 8. At iron work three years here and two and a half in Staffordshire; only worked days there. Riddled sand. It used to ache my back at first. Only work five turns a week here, *i.e.*, five days or nights, not working on Monday. Get 6*s.* 8*d.* a week, and have 6*d.* of it for myself. For nearly a year have put 4*d.* out of this into the bank. Generally do shiver like this when I've been hot.

Do not go to school on Sunday or at night; have no good clothes to go in. Father makes 18*s.* a week, one of my brothers 10*s.*, and I have three sisters at work. Three of us are at home too little to work. Go to a church. (Q. What Church?) Some say it's Protestant, some Catholic. Parson preaches out of a pulpit, and reads out of a Bible, but I can't get nigh enough to understand the words. Have heard say that God made the world, and that all the people were drownded but one; heard say that one was a little bird. Suppose that Christ was a man. He was a father, and teached 'em to read out of a Bible. Think He *was* put to a cross.

[Pale and ragged. Shivers constantly though on a mild day.]

97. *William Smith*, age 15, moulder.—Sift on and blow off dust, &c. Work from 7 till 6, and begin at 6 on Saturday. The time that I stay depends on the iron. Do not often stay till 8, unless we are doing big castings. Earn 8*s.* a week, but do not get any of it. Came three years ago to work here for my uncle, who wrote to where I lived to ask me to come, as he had a place for me. Live with him. Go away an hour for dinner. Get a wash sometimes, not always.

Never was at day school in my life, except for a week or two, and do not ever go at night, but do on Sunday, and to chapel. My cousin teaches me reading a little. Heard at chapel about Samuel fighting with a lot of soldiers. Have not heard of paradise. The garden of Eden is where men goes and eats off a tree. It was not any particular man. Do not know if Adam and Eve were the first people in the world. God made man; man made woman.

98. I visited the Cyclops steel and iron works of the Messrs. C. Cammell and Co., which are on a like large scale, employing between 2,000 and 3,000 persons. The nature of employment and system of work, as to hours and other matters, is the same. A statement was made by the managing director to much the same effect as that made in behalf of the Messrs. Brown and Co., but cannot be inserted, as the manuscript has not yet been received back from the gentleman referred to, to whom it was sent for his revision. The answer, however, to question 7 of the Tabular Form asking for an opinion as to the prohibition of night work by children or young persons is, "It is impossible for us to do so; it would be tantamount to stopping our works." Yet of the whole number of persons employed, boys of all ages under 18 form little more than 6 per cent., and boys under 13 less than 1 per cent., and of both these classes several would naturally be engaged in day work only.

MESSRS. STUART AND SMITH'S, STOVE GRATE, &c. MANUFACTURERS, ROSCOE PLACE.

Stove grates.

99. The stove grate manufacture is one of importance, and is carried on in large manufactories in Sheffield and Rotherham. It includes other goods, such as fenders and fire-irons, &c. The principal processes are founding, grinding on stones, polishing on wheels, fitting or smiths' work, and orna-

Metal Manufactures. Sheffield District. Stove grates. Mr. J. E. White. a.

menting, by bronzing, enamelling, painting patterns, &c. Highly heated stoves are used for drying the articles. At one of the leading manufactories I was informed by the proprietor that he had burst a thermometer in a stove at 450°, and that one in which I stood for a short time was then at a temperature of about 430°. This great heat, however, is while the stoves are closed, and not entered by any one, and boys apparently are not employed in connexion with them. Indeed, owing to the nature of the work the proportion of boys employed in the manufacture at all is small.

100. At the works of Messrs. Stuart and Smith it was stated that the hours are from 6 a.m. till 6 p.m., and regular, except for, perhaps, a month before Christmas, when the workpeople like to make overtime, working sometimes till 8 or 9.

101. *Edward Taylor*, age 15, moulder in the foundry.—Work from 6 to 6; never longer. Was at some rolling mills before. The proper hours were from 6 a.m. till 5½ p.m., with half an hour for breakfast and an hour for dinner; but we worked all hours. In the nine months that I was there I worked about four nights in every week as long as till 8½ in the evening, excepting three months, when we worked nights one week and days the other; and for about four months worked one day and night together every week, and sometimes two days and two nights running without stopping, except for meals and at odd times when the heats were not ready and we could rest a bit. We had the full times for our meals except on Saturday, when we sometimes worked on through dinner, so as to give over at 3½ instead of at 4. My regular wages were 6*s.* a week, and I had 3*d.* for two hours' overtime. Sometimes was tired when working two days and two nights together, but not when working on till 8½ p.m. Sometimes used to fall asleep at my work, and then a lad that I worked with would give me a bit of a shove to waken me. There were about 18 boys in our mill, the youngest about 12, and there were about four in the sheet rolling mill, where they worked nights too sometimes, though not so much as we did. The sheets were rolled hot. When we worked the longest it was at rolling ramrod iron, but we rolled all kinds at other times. Took out the bars of red-hot metal at the back of the roller, pieces about as long as from here to—(20 feet or more). Sometimes the guides got wrong, and turned the bars on to us. Was burned into my leg myself once, and a boy of about 13 was burned right through his leg, the hot metal passing in one side and out the other. He was away four or five weeks for it. We did not often fall when taking the metal back, unless the place was hot and slippy. The boys had to slur back to the roller, and when they have to look sharp about it, that makes it slippy.

Was at printing also as errand boy, &c. in the office of a weekly newspaper, and went from 8 to 8; but on Fridays had to work all night folding papers, but not every week. There were four other boys, two younger than I was.

Go to school on Sundays and three nights a week, for which I pay 1½*d.* Can read, write, and do sums, *e.g.*, reduction. Do not know what 10 times 12, or 3 times 7 is. Have almost forgot 'em all. Do not know of London; never learned any maps.

102. *John Coleridge*, age 17.—Polish at a wheel. Went to type founding when I was towards 9 years old, and broke types off. The hours were from 7 till 7, with an hour and a half for meals.

Then went to cutlery, when my hours were from 7 a.m. till 7 or 8 p.m.; the same meal times.

Can read a newspaper and write, but do not go to night school because I have very bad eyesight for seeing by gas light.

Steel.

MESSRS. T. TURTON AND SONS', STEEL MANUFACTURERS, SHEAF WORKS.

103. A simple safeguard used in the rolling mills here might with advantage be adopted in rolling mills more generally than it is. Rollers, of course, must always be exposed to allow of passing the metal through them. But between each pair of rollers, of which there are usually several in a line, is a space in which the ends of the rollers and the connecting shaft revolve.

104. Horrible accidents have in some places happened from boys getting on the wrong or putting-in side of the rollers, and, if once caught by the machinery, drawn in in a moment, and of course crushed. The intermediate spaces, in which it is stated that this is most likely to happen, are in the Sheaf works covered with an iron saddle, which can be easily lifted off when there is need.

105. The number of persons employed here varies, but is, I was informed, towards 1,000. Some of the boys' work is hot, particularly that of the "firers," who stand in front of a furnace, from which they take out large bars of steel used for springs, and hand them to a man who cuts them at a machine. A boy of 12 (No. 107), who helps this man, is exposed to the heat of the bars which are thrown in a heap close by.

106. *John Willey*, working manager of the rolling mill.—There are about 22 or 23 boys, from 10 or 12 years old upwards, in the rolling mill under me. They take work at the backs of the rollers, taking out the hot rods, &c. They work from 6 a.m. till 6 p.m., with two hours for meals. Sometimes we work in day and night turns, but have not done so for the last three months, as the amount of work has not needed it. Sometimes when we are not working night and day sets we make a quarter of a day over, *i.e.*, till 8 p.m.

We have not had any serious accidents here. Of course the boys get burned sometimes, but none have been pierced or seriously hurt with the hot metal. You have heard, I dare say, of boys going through the rollers. It is not through the rollers themselves, but through the space between two adjoining pairs of rollers, and happens from boys getting to the front instead of the back of the rollers, which is their proper place. A little plan which I have invented prevents an accident of this kind so far as this space is concerned. It consists merely in putting moveable iron covers over that part of the machinery.

[Some boys at the rollers gave much the same account of their work. Their faces were grimed with black.]

107. —— *Rogers*, age 12.—Don't know my christian name. Am now sitting by the man who cuts off the end of springs at a machine and throw away the waste ends. Usually I fire, *i.e.* take the bars from the furnace where they are put to heat. The work I am at now is hot, but yon is the hottest. Work from 6 a.m. till 6 p.m. Sometimes make a quarter over, *i.e.* till 8½ p.m. Once worked here all day and all night and all the next day again. Have been here about a year.

Steel, saws, &c.

MESSRS. JOSEPH PEACE AND CO.'S, STEEL AND SAW MANUFACTURERS, NEEPSEND.

108. The building in which the boys were rolling cold steel is gloomy and cramped. I had barely room to reach one of the boys to speak to him at his work. The ground was sloppy from this work.

Metal Manufactures.

Sheffield District.

Steel, saws, &c.

Mr. J.E.White

a.

109. *Mr. Joseph Peace.*—We melt, tilt, and roll steel, and make saws, busks for stiffening, and other articles. There is only one cellar boy. We have also a wheel in the works for grinding and glazing the saws, and make and fasten on the wooden handles. Some females are engaged in the shops and warehouse at presses or flies, japanning, and other ways.

Three or four boys in the saw department are in our direct employment, but the others and some of the females are employed by men. The boys are, I believe, well treated and paid, as they are not fastened to the men, and could run away to some one else if they were not satisfied with their present masters. Where they are bound their master is, I fear, often a tyrant to them. Saw grinders have the privilege of bringing up their sons to their own trade under them, which in other trades often is not the case. Consequently they bring their lads in very young, some as young as 8 or 10 I should say. The boys glaze on a wheel as it is a light work, but it is less healthy than saw grinding on account of the emery dust which is always flying about. They stand to work, not sit. Saw grinding is reckoned at the top of the grinding trades for healthiness. The grinders like to work as short a time as they can, and often work less but never more than the day of 12 hours, including meals. The melters also work only by day, and do not make more than three meltings here, though I have understood that this is done in some places.

Most of the other work goes on day and night from 6 to 6 or 5½; and in some other work, which usually goes on only by days, if there is much to do we prefer to work all the 24 hours round with two sets of hands instead of making overtime. The engine must anyhow be running for other parts of the work. In parts of the work which do not depend on power, the men sometimes get behind early in the week, and we let them stay later at the end to make it up, *e.g.* till 8 p.m. instead of 6. There is an hour and a half for the two meals. On Saturdays all give over at about 3 p.m.

The night and day set change week by week, because men could not stand working always by night only. It is true they get more holiday than the day set during the week, as they can spend part of the day in pleasure, but this is taken from rest, and the night air is not good for them. The change to a week of day work, however, seems enough to refresh them.

I wish myself that we could do without working at night at all, as we could if the prices would allow of it. They are so low that to make a profit the machinery must run as long as it can. We could not employ a double number of hands by day instead, because the machinery and space are occupied and double of both would be needed. If boys under 18 could not work at night, men must be employed instead, and we must charge more for that, so that things could not be sold to the consumer so cheap. That would be all. The manufacturers being all on the same footing by law would keep the prices up, much as at present the men keep their prices up with us by means of their union. The difference of price would not, I think, be sufficient to discourage the trade. Youths do not usually get full men's wages till about 21. Perhaps boys over 14 might be allowed to work at night, but not any younger. But on the whole I think that it must be injurious for any boys to be working at night. They cannot sleep and get proper rest by day, but will be running about. It has sometimes happened that the mill has stood, *i.e.*, been unable to work, simply because boys belonging to one set have been away. If the want of workers is discovered in time it may happen that others are stopped out of the preceding set and persuaded to make the other up, but usually they are away too soon. It may happen sometimes that boys are thus kept without our knowledge.

Accidents happen in the rolling mills from carelessness. We have never had any serious ones in ours, but we have had many narrow escapes. Only lately a boy was pitched over a wheel and left lying under it as it was going. This happened from the machinery being started before it was known that anyone was in danger, but he was partly to blame for not having taken his bar out of the roller, as he should have done.

Accidents also happen at grinding from the stones breaking. I do not know that they are less frequent than formerly. When such an accident happens it is serious. The marks of one which happened lately here are shown by a hole in a solid brick wall caused by the flying of a stone. The new plan however of fastening stones is much safer than the old. Now the axle does not touch the stone, but passes through a large hole, being fixed by means of plates, so that if the axle heats and therefore swells it does not burst the stone. Formerly the axle was fixed tight in the middle of the stone by means of wooden wedges, and then when the axle heated it swelled and made the stone fly.

The grinders are not at work to day (Monday) because the "rattens" have been in the night and taken away their bands. This is done as a means of enforcing the subscriptions to the trade unions if any of the men are behindhand with them. When the subscriptions are paid the bands return. The men, however, care little for not being able to work, as each receives 7*s.* a day from his society out of the fund to which he contributes. It is my opinion that these trade unions are mischievous and ought to be put down, and that in place of them there should be a court, with legal authority to decide in all cases of dispute between masters and men as to wages. We should have much more satisfaction in submitting to such an authority, and I believe that many of the men are tired of subscribing merely for the benefit of paid secretaries, &c., whose interest it is to keep up these trade unions, and would prefer a court of this kind to decide disputes.

110. *John Cawthorpe*, age 14.—Backer at a roller, taking out hot steel. Am used to this job now, *i.e.* hot steel, as I have been at it five years. Often get burned with it. (Shows scars on hands.) Once had the steel almost through me, here in my thigh (close by groin). The man was shoving it through when it was getting cold, and it turned so and caught me before I could get out of the way. Went to the infirmary for it and was laid up two months.

Work one week on days and the other on nights. Sometimes start at 6 on Friday morning and do not give over till 2 p.m. on Saturday. That is the only time that I work night and day together. Sometimes I work a quarter (of a day), *i.e.* three hours over; sometimes a half. When I have been working three turns I get tired. Get some sleep in the dinner hour, and sometimes in the breakfast half hour. When tired I fall asleep in working time, not when standing up, but many a time when I am sitting down. When it (the hot steel) comes through it wakens me. It is very heavy work, and when they first come through the rollers I can hardly lift them, but when they get longer it is easier. The men are very kind to me. The lads do not get hurt in the machinery.

Can read a little bit, but not write or read writing.

111. *Patrick Manger*, age 13. At cold steel rolling. Work only by day, properly from 6 till 6, but sometimes make a quarter over, *i.e.* till 8½ p.m. At another place, where I did the same kind of work, have made half a day over for a week together, *i.e.* working from 6 p.m. till 12 (noon) the following day, and have worked for a night as well as my day shifts, *e.g.* from Monday morning till Tuesday night, not getting to sleep till then, but have not done this often. Get 8*s.* a week, and sometimes 2*d.* or 4*d.* of it for myself.

Cannot read, but can tell the letters. (Reads very short words.) Go to Sunday school sometimes.

112. *Henry Kay*, age 10.—Fasten rivets for busks with a hammer. Get 3*s.* a week. Mother puts 3*d.* at bank for me. Went to work when I was going 10.

Can write. Go to Sunday school.

Metal nufactures.

Sheffield District.

Edge tools.

r. J. E. White.

a.

MESSRS. WARD AND PAYNE'S, EDGE TOOL AND SHEEPSHEAR MANUFACTURERS, WEST STREET.

113. Some of the warehouse work here, as in many other warehouses, is strictly manufacturing. Two or three boys bend and hammer shears, oil them, &c. About a dozen girls, apparently from the ages of 12 to 17 or 18, also rub off oil and wrap up goods, &c. Part of the grinding wheel is let off.

114. *Mr. Ward.*—The hours in these works are from 6 a.m. till 7 p.m. with two hours for meals. The girls and a few boys in the warehouse, who sort, rub off oil, wrap up, &c., work from about 8½ till 7. Sometimes we make overtime, according as work requires it. Now for about a week or 10 days we shall be making overtime till 9 p.m. In the week before Christmas our custom is for the hands to make 15 hours a day to enable them to make up for the holiday which follows.

I do not know how the factory system will answer. I find that foreigners can now produce goods at much less cost than we can, and this is the case not only in goods such as we make but in textile goods too. If we are tied only to work within certain hours it might put us at still more disadvantage as compared with foreigners. If people could be persuaded in consequence of such a limitation to give longer notice, it might be well enough; but that is unlikely. There are certain seasons in our trade, and we expect certain orders at given times, but though we may think that we have arranged to meet them, they may turn out to be larger, or others may come in at the same time. To some extent we can make up by taking on extra hands, but sometimes we have to pay a large bounty to attract them. There is sufficient likeness in some of the kinds of work carried on in the town to allow of getting hands from one trade to help in another. The end of the Russian season causes a push just now, as goods must be sent before the navigation is closed. There is little, if any, difference in the time of this in different years. The last vessel nearly always sails somewhere about the first week in November.

115. *George Allinsworth*, age 9.—Came here as cellar boy last Friday. Next morning we had to begin at 3, so I stopped here all night. Live five miles off. Slept on the floor of the furnace overhead, with an apron under me and a bit of a jacket over me. The two other days I have been here at 6 a.m. Aye! it *is* hot in here.

Before I came here I was nearly a year at the same work at some works in the country, a very large place. Began there too at 3 on Saturday mornings, always did; but was very gain home and could sleep at home. Other days I began at 6 in the morning and gi'en over at 6 or 7 in the evening; but it depends. Saturday afternoon I give over at 2 or 3. Go up into the furnace and carry away the waste after they have done teeming.

116. *John Allinsworth*, father of last boy.—Work in the furnace. Last Saturday morning we began work at 2. We had slept in the furnace, being strangers to the town. We live at Wadsley, four or five miles off. We have to be here by 6 a.m. It *is* a long way for the boy to come and go back each day, though I can manage it. I should like to get some place in the town for him to stay in.

117. *Ellen Depledge*, age 12.—Oil and wipe edge tools in the warehouse. Have been here nearly a twelvemonth. Our hours are from 8 a.m. till 7½ p.m. Am now working overtime till 9. Think that now we shall have to come at 7 or 6 a.m. and work till 9 p.m., from now (beginning of November) till Christmas. Have not had orders to do so, but it is what the girls here say.

118. *George Albert Parker*, age 12.—Oil shears in another room of warehouse. Work from 7 a.m. till 8 p.m., or, when we make overtime, till 9.

Was in a screw-mill before. Worked there from 7 till 7, and when we made overtime from 6 a.m. till 8 p.m. Went to blade-forging at 9 years old.

eel.

MESSRS. SANDERSON BROS. AND CO.'S, STEEL ROLLING MILLS AND FORGES, ATTERCLIFFE.

119. At these works, in a village near Sheffield, steel is rolled into sheets, rods, and wire, and forged at forge or tilt hammers. The firm have two other works, one place near, the other in Sheffield, at both of which steel is melted. Boys work at all. At the Attercliffe works the noise of some of the machinery is deafening, making it almost impossible to talk. The wheels are well fenced.

120. *Mr. E. F. Sanderson.*—The boys are all employed by the men, who are generally their own fathers or friends. At the rolling-mills and forges the work goes on night and day, from 6 to 6 in one branch and from 12 to 12 in the other, but out of this two hours are allowed for meals and the men often come one, two, or more hours late or leave as much earlier. There is no special reason for the distinction of working from 12 till 12 or from 6 till 6, but the men's own choice. Those who work in the nights one week work by days the next, as is the rule where there is regular night work. The health of the men requires this change, but that there is no bad effect from either the nature of the work or the night work so arranged is shown by the great length of time which many men have continued in our employment and their general health and strength. It might be expected that the heat of the work would make them intemperate, but this not the case. One man, who for a long time had bad health and pain in the stomach, was quite cured by coming to work here, which was attributed entirely to the great perspiration. As far as I am aware, the melting is not less healthy. That is only day work, the men working till they have finished three rounds of melting. This is the general rule of the trade, and the work cannot be lengthened, because neither the men nor the pots could stand it. We at least have never done more, except for trying some pots. If more work is wanted, as is sometimes the case, a fresh set of hands and pots are put on to work for the whole night, but this is very rare. The boys who work at the melting are cellar boys, who make pot-lids, &c., and watch the pots while the steel is melting. This is hot work, but not unhealthy that I know of. Boys do not get to help in the casting shops themselves before the age of 16 at least.

Great difficulty would be caused by preventing boys under 18 from working at night. The chief would be the increase of cost from employing men instead of boys. I cannot say what this would be, but probably it would not be enough to enable the manufacturers to raise the price of steel, and consequently it would fall on them, as of course the men would refuse to pay it. Only 5 of the boys here are under 13. The wages being paid by the men who work by the piece, I cannot say just what they are. Perhaps the younger boys get from 4*s.* to 5*s.* a week, and the elder rise from that up to 15*s.* to 16*s.* Probably youths of 18 could be got now for 17*s.* or 18*s.*; but if all the works in the town had to get youths of that age the available number probably would not be sufficient. The

boys' work is of a kind for which the strength of boys is generally quite sufficient, and consequently there would be no gain in the greater strength of the men to counterbalance the loss, or it would be only in the few cases in which the metal is heavy. The men would not like so well not to have boys under them, as men would be less obedient. Besides, boys must begin young to learn the trade. Leaving day-work alone open to boys would not answer this purpose, as owing to the men working days and nights in alternate weeks, the men would be separated half the time from their boys, and would thus lose half the profit which they make from them. The training which they give to an apprentice is considered as part of the return for the boy's labour, and thus enables the men to get it at a cheaper rate. Each man would want half of this profit. In addition to this it would throw regular night-work on those who worked instead of boys in the other turn, which they would not stand. The difficulties, in fact, would be so great that they would very likely lead to giving up night-work altogether. As far as the work itself is concerned, this would suit as well, but then there would be the loss from so much expensive machinery lying idle half the time, and to get through the amount of work which we are able to do on the present system, we should have to double our premises and plant, which would double the outlay. It is true that there is this loss from machinery lying idle in those manufactures in which work now only goes on by day. But the use of furnaces would involve a further loss in our case. If these were kept up there would be a waste of fuel, and if they were not there would be loss of time in laying the fires and getting the heat up, and the furnaces themselves would suffer from the changes of temperature. The larger the furnace the greater the loss. In the rolling mills the furnaces are larger than in the forges, and are never let out even on Sunday, or if the works stand for some days. The smaller furnaces in the forges are let out on Sundays. The melting furnaces are also let out each night, but this is necessary to clear the bottoms, and the pots, if put fresh into a furnace already at full heat would be liable to be spoiled. As it is, the furnaces do not get cool in the night, and the pots are gently warmed before putting them in the first time, each pot serving for the day of three rounds.

If the limit of age at which night-work was allowed were fixed at 16 instead of 18 the difficulty would be far less, but would still be felt.

We have been very fortunate with regard to accidents. I only remember one happening to a boy who carelessly got his hand into the roller, and one to a man who was run through the body with hot steel. The boys are seldom burned, except when they first come, and that makes them very careful afterwards.

121. *John Smith*, age 15, tilter.—Have been so a year and a half regularly, but 3 years learning and all, having been a heater at first. To tilt I sit in a chair, which swings backwards and forwards. It tires my arms and wrists, and when I have done work I feel my back ache, but not at the time. Do not always sit, but when I use the big hammer for doing heavy ingots I have to stand. These tire me most. Work from 12 a.m. till 12 p.m., and stop ½ an hour for tea, and an hour afterwards; the engine stops. Am 'prentice to my uncle, who gives me a shilling or two a week to spend. For the first two months I had nothing, then 6*d.*, and did not get to 1*s.* till I began to tilt. All the other boys in this building work for their fathers, except one who works for his uncle like me.

Wasn't very well when I was at heating. It was too hot. Had the sick headache and all, and was not often without it. Was strong before, and came out of the country 5 miles off. Have not had the headache since I left off heating. Used to get burned when at heating. The heats slip out of the tongs and burn us arms. Once I had to leave off work a month for a burn. Think about 20 boys heat in here. The boys in the rolling mill often get burned at legs. This wears their trowsers, but does not hurt them much. We wear leathern aprons at heating and tilting and all.

Was at school till I came here. Cannot go in the evening, as I am at work, but go on Sundays always, and to chapel. Can read a little (can only spell a few monosyllables badly). "Prayer" is what you say at night. Learned some at school, and say them. Tried sums. Can set 'em, but can't add 'em up.

[Sallow and languid.]

MESSRS. WM. JESSOP AND SONS', STEEL MANUFACTURERS, BLAST LANE, FORGE LANE, AND BRIGHTSIDE.

122. The Messrs. Jessop are very large manufacturers—as I have been informed, the largest in the world—of steel, such as is used for purposes such as cutlery, pens, &c., for which steel of the truest kind is required. They have three works, at the places named above, two in the town, and the third, the largest, about a couple of miles from it in an airy situation covering 24 acres of ground. The chief branches of work carried on are the conversion, melting, forging and tilting with hammers, and rolling. The converting is men's work, and the melting is carried on by days only. In the remaining processes boys are employed, and work by night and day in relays, as in iron work. The melting furnace work itself requires the full strength of a man, but boys are employed as helpers in miscellaneous ways, *e.g.* sweeping up, throwing scrap metal into the pots, stirring the fuel, &c.

123. In addition to the departments for manufacturing the steel there are others for the preparation of fire-clay, and making it into melting pots, of which a very large number are required daily, the pots becoming worthless from the extreme heat after a day's use. There is also a carpentry department for making the packing cases in which the goods are sent off.

124. A statement of the views expressed to me by Mr. Thos. Jessop, mayor in both the past and present year, sent to him for his revision, was unfortunately mislaid. They were much to the same effect as those expressed by other leading manufacturers, and so recorded.

125. *Robert Newbert*, age 14. I "heat," *i.e.* hold bars in the fire with my hand to heat them and put them under the tilt for the tilter. Am apprenticed to him till I am 21, and have been with him a year and a half or so. Live with him, and get my meat and clothes but no wages. That is the usual way. T'oldest apprentice, a lad of 19, gets spending money, as he is a tilter now, and has been 2 or 3 years. Shall begin to tilt myself when I am clever enough. Come on to work at 12 at night, and work till 12 in the day, stopping half an hour at 5½, and again at 8½ for meals. Most work days one week and nights the next. Always get to bed at about 5½ in the afternoon, and do not stay up later to play, even in summer. Get some play after I have got home and had my dinner. Often get colds. That is from going out without our clothes when we've been sweating hard, as we do when we work hard. The colds do not hurt me or give me pain anywhere. One boy, younger than I, works near me, and one a bit older. The younger comes nights and days, and puts coals on the fire, and keeps the steam up.

Was at day-school before I went to a colliery, and go on Sundays now. Can read, but very little, (spells), and cannot write at all. Can count pretty middling, and do the little uns (sums). Don't know what 9 times 9 is. Have not heard of India. A whale is great big bone jaws.

Metal Manufactures.

Sheffield District.

Steel, files, &c.

Mr. J. E. White.

a.

MESSRS. IBBOTSON BROS. AND CO.'S, MANUFACTURERS OF STEEL, FILES, SAWS, TOOLS, &c., RUSSELL STREET.

126. *Mr. Alfred B. Ibbotson.*—The chief branches of work carried on upon our premises are steel melting, converting, and tilting, railway spring making, file making, consisting of the forging, annealing, grinding, cutting, hardening, &c.; also saw making, including paring, toothing, hardening, grinding, and glazing; and the manufacture of small engineers' tools. A very large portion of our steel tilting and rolling is done for us at various establishments in Sheffield, many large works here being exclusively employed in tilting and forging for the different steel makers; and this kind of work usually goes on night and day, and I believe that boys are usually engaged in it. On the whole we employ more persons off our premises than on them, particularly in file cutting. This is done chiefly at the houses of the workers, and it is in this way that the greater part of the workers in the file trade are employed.

In the Sheffield district, files are made by hand labour only. The forging, grinding, and cutting could be done by machinery equally well, and at far less cost; but the jealousy of the workmen on this point is so strong, that no manufacturer can venture to introduce machinery for the purpose. It would not be safe for him to do so; otherwise, we could introduce machinery with great advantage. Abroad, however, the cutting is very extensively done by machinery, and in France excellent looking files are produced in this way, as I have myself seen; and indeed the French are now selling large quantities of files to our customers on the continent, almost equal in appearance to ours, at little more than one-half our price. And although, seeing that the demand upon us for files is continually increasing, we must presume those French files to be very inferior in quality to ours, yet we are persuaded that any inferiority which exists is caused, not by mechanical difficulties or any inability of the machinery (if under experienced hands) to do the work well, but by the want of equal skill and knowledge in other important processes, such as the preparing of the material, as well as tempering, annealing, &c., which all require great study and experience. Thus to produce a really good quality there are several necessary operations which can be performed only by experienced men, and these will have nothing to do here (which is the great seat of the trade) with work any part of which has been done by machinery. This throws a great difficulty in the way of machinery being used profitably for the purpose, even in other places in England. If this jealousy were to disappear, I have no doubt that the forging, grinding, and cutting of files would soon come to be done by machinery in Sheffield. It is very important for the interests of the English trade that it should, for it is obvious now that it must in the end suffer if the work can be done, as it can, at a much lower cost in other countries by the use of machinery. The reputation, however, of the Sheffield work is deservedly so great, and there are such advantages here for the manufacture of steel and steel goods, that in spite of the present impossibility of introducing machinery here, it is likely that the manufacture will continue to be carried on here on the present system on a very large scale, at any rate for a long time.

The same difficulty prevents the introduction of machinery in other branches of our trade. The Americans have machinery for saw grinding, which produces beautiful work at a third of the cost here; and one of us has been in a manufactory there where this was done.

I think it right that children and young people should be protected by law from any injury by overwork. As regards any limitation of night-work, it is an important but difficult question as regards many of the trades carried on in this district. I am not, however, in a position to offer an opinion of much value about it, as we have so little night-work; but as regards a limitation of day work to 12 hours only, it would not matter to us at all; and I think that there is no trade in Sheffield that would be injuriously affected by the passing of a law to that effect.

127. *George Batty*, working manager of a steel melting department.—The men and lads come at $5\frac{1}{2}$ or 6 a.m. and are expected to be ready for work at 6, and have done by 5 or 6 p.m. On Saturday they come at 4 a.m. and finish earlier. We used to begin at 2 a.m. on Saturday, but the men coming so early used to get a bit sleepy, and when they left work got to drinking. Beginning at 4 instead of 2 a.m. is a great improvement every way. We get them to work in the morning better, and when they go away they spend their time better.

We make usually only three rounds in a day. If we are very throng we make four, but this does not add more than three hours work at the outside. Each melting takes less time than the previous one. From the time that the hands come till the time that they finish the first melting takes about $5\frac{1}{2}$ hours, the actual melting taking about $4\frac{1}{2}$. The pots might hold out for five meltings, but not to any profit. More would be wasted than was gained. Two lads work for me, one aged 13, the other 12. They make lids and stands in the cellars and watch the pots. When we are teeming they come up to help, slitting the flux at the top of the pot with a bit of steel to let the metal run out.

128. *George Bagnall*, under manager of the file department. There are usually a few young boys and youths in the file cutting shop. They begin file cutting at from 10 to 12 years old. The shop is open at 6 a.m. and closed at 8 p.m. if any like to work as long; but in the fore part of the week the workers often take their breakfast before they come, and on the latter part come at about 7 a.m. and stay till 7 or 8 p.m.

The lead used to cut the file upon and the dust which flies up make it unhealthy work; forging is a deal healthier. Colic is a very nasty complaint amongst file cutters, and you scarcely ever see a file cutter with good teeth; that shows the effect. Their teeth generally begin going when they are about 18. Sitting and stooping too so much over the work, as is necessary, is bad for the chest. Dr. Holland, who studied the health of file cutters and wrote about it, said that they ought to be very particular to wash their hands before every meal.

An account of the file trade is taken every year. There are now very nigh on 6,000 men and boys and 700 women and girls at work in it, *i.e.* including both payers and non-payers (*i.e.* to the society). Of the 6,000 about 4,000 probably are men, and the remainder boys from 21 down to 10 or 9. The females are of much the same age. I have, however, known cases of children beginning work at 7 or 8 years old. There is some work which they can do for men, such as preparing the files, before they are able to work by themselves.

It is a rule in the trade that a file cutter may have one apprentice and one only to work for him and his own children also, but if he has once taken on his own children he cannot take an apprentice. In any case he cannot take on the child of another person unless that person be a file smith. The small masters however are not bound by these rules, and take on boys as they please. A parent will sometimes pay him 5*l.* or 10*l.* as a premium and perhaps the child's first year's work also for nothing. The small masters will do work at a lower cost, and so are nearly sure to be always full of work, and with them the boys have to work very hard and very long hours. A small master will have a dozen lads or sometimes two dozen, from the age of 9 or 10 upwards. I know one who has only two men and a dozen lads.

There is a good deal of heavy work. I have seen

a boy of 14 years old using a 22 lbs. hammer in file forging and some who have grown completely out of form from the work. The hammer used by boys for cutting is usually from ¼ lb. to 3 lbs. weight; men use up to 9 lbs. The weight which is lifted so in the day is wonderful, and I have often heard men reckon the number of tons that they have lifted and the number of thousand strokes that they have made in the day.

129. *Thomas Bagley*, age 12.—Have been a file cutter about a year. Work usually from 7 till 7, and on Fridays till 7½. Take an hour for dinner. On Saturdays come at 6 a.m. Can read any book, and write.

130. *Charles Stork*, file cutter, in a yard leading from Watery Lane, Sheffield.—There are a great number of small outshops like this in Sheffield, in which file cutters work, usually from three to six in a shop. In these they begin work at 7 or 8 a.m., and work to 7, 8, and 9 p.m., and towards the end of the week till 9 or 10 p.m., beginning often on Thursday and Friday at 6 a.m. File cutting shops in factories are opened at 6 a.m., and close at 7 or 8 p.m. The lads have to be at work at 6 a.m., though the men often don't go till 8 a.m. Young boys give over at 7 or perhaps 8 to go and play 'em. Not one file cutter in six gets his dinner on Saturday, unless they finish on Friday night. Many that can raise them haven't time to eat them, and others can't raise them. Women and girls sometimes work in their houses, as well as in small shops; but boys have to work in a shop with a man, as they must be taught their trade by men.

It is reckoned that there are about 3,000 men file-smiths, *i.e.* makers and cutters, members of the trade, and 500 or 600 who are not. There are also many boys, girls, and women file-cutters, especially out in the country. Hardeners and grinders form different trades. Some children begin the work at 9 years old, but respectable men don't reckon to take them on till they are 12. The age at which they are put depends on whether the father drinks. A man generally sets his own son on. My father and grandfather were file cutters. Some small masters will take four or five boys. Boys are generally bound from 14 till 21, and, as apprentices, generally get half of what they earn; from 18 to 21, lads will make perhaps 1*l.* in a week, but they only get 10*s.* of it. For the first two years after they are loose they don't earn 15*s.* perhaps, but they get it all.

File cutting is very unhealthy work to the belly, causing colic, and it makes the hand weak, owing to the lead and the constant strain. The left thumb and wrist are strained by holding the chisel constantly, the right by the hammer. Each cut takes a separate stroke. Such a file as I am now using has 1,000 cuts on each side, for which I use a hammer of full 7½ lbs. weight, and 300 cuts on one edge, for which I use a 3 lb. hammer, and I can make 20 such files in a day of 10 working hours (*i.e.*, he lifts about 142 tons weight in a moderate day.—J.E.W.) The right hand and wrist often become weak and waste, and get knots in the tendons. My right wrist is smaller than my left. (It is quite slender.—J.E.W.) Owing to the pressure of the chisel the left thumb is stunted and never grows properly, and also gets bent back, and is liable to have warts like this on the end, which are very painful. (The other workers showed like warts.—J.E.W.) The man to whom you spoke and who is just gone out has smashed up his thumb and wrist and altogether. He is only 37, but it will take him all his time to live till he is 40. He has worked very hard, viz., from 5 a.m. till 10 p.m., and on till 7 p.m. on Saturdays, for many a month together.

We use candles because the owner of the shop, who is not in the trade, would not be at the expense of laying gas down. But gas would be a deal better for the work and cheaper. It would cost me only 2*d.* a-week instead of 4*d.* or 5*d.* But it would be very hot, and in a small shop like this we should be melted by it.

File cutters were a very drinking set, and unable to read and write; they were reckoned to die from drinking at about 40; but the condition of the class has been very much raised, especially within the last 10 years, by means of schools and greater education. Now most can read and write, and many, being more educated and drinking less, work on till 50. It is a scandalous shame for any lad to grow up now and not be able to read and write; he can get a first-class education at an evening school for about 3*d.* a week.

They will never get the Factory Act in the file trade, because if ever the master is out of the shop the lads are sure to get and play 'em.

[A young woman who worked in the shop remarked, "We have worked here all night "many a night." The man referred to as injured by his work looked in very poor health, and old and worn.]

131. Specimens of the country file work are given below, as furnished by two villages, each a few miles from Sheffield; viz., Ecclesfield and Oughtibridge, which are two of the chief seats of this kind of work. The first witness works with only an apprentice in a small shop in a yard. The working position, as observed in this shop, is constrained and uncomfortable, the seat being a sharp-edged form or horse, on which the cutter sits astride, the left foot being raised on a step on one side of a broad block in front to bring the leg up as a support to the chisel arm, the right foot on the other side holding down a strap passed over the file to hold it in its place when struck. The body leans over the block. To keep the under side of the file from being injured by the iron plate on the block while the upper side is being cut, the file is rested on a small piece of lead of the size and shape needed. On measuring the used up with the new pieces it appeared that in average use a piece of three or four inches long and half the breadth is reduced by cutting and pressure in one day from about three-eighths of an inch to less than one-eighth of an inch. Some of the lead thus lost finds its way into the bodies of file cutters, as described below and by some medical writers. See also third Report of the Medical Officer of Privy Council. The amount of lead used up in this way by file cutters generally is considerable.

132. *George Greaves*, file cutter, Ecclesfield.—Work in my shop here for a large factory in Sheffield, and am teaching an apprentice, now aged 20, here for the same master. In the village the work is generally done in a little shop like this, but sometimes a man may work in his house or put up a stock there for a little girl. The general plan is to have files ready shaped out from a Sheffield manufacturer, and to take them in on Saturdays, or on earlier days if wanted, being paid so much a dozen for the labour. Children begin at from 9 to 12 years old. At first they do not pay for the trouble and are only loss. We always want to have a boy the first 6 months for nothing. Then perhaps, if he is clever, he may earn 4*s.* or 5*s.* a-week. In light work, such as edges and small files, in which quickness is wanted more than strength, girls will do and earn more than boys. Some girls and boys of 12 or 14, if they are quick and work hard, may earn, I should say, towards 10*s.* a-week. Some are slow, and can never get to work well.

There are no regular hours of work in the trade; we work as we please, but about from 8 to 8, with meals, is perhaps the most usual time. I work, perhaps, from about 8 a.m. to 9 p.m., with several long rests as the work is tiring. Some work but

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very little in the fore part of the week, and very hard at the end. Some men, perhaps, begin as early as 4 a.m. or 5 a.m. on Friday, and see but little bed till Saturday; but the work of the young does not depend on that of the men.

Taking file cutters generally, they are not healthy. A doctor near here used to say that they were more like rotten sheep than anything. After a man is 40 they begin to hiss at him and he goes down hill; though I do know one of between 50 and 60; but after about 40 a man's health is not so good or his hand so steady, and he only gets common work, or, if trade is bad, is thrown out altogether, the masters liking younger men. We have to sit leaning over the work so, which makes the back and side ache at first, and mine do still very much when I sit at work hard. You hardly see any file cutters but what are bow-legged from sitting with legs each side the stock.

The lead too on which we cut is bad for us. Though we do not appear to touch it, it does reach us. You can see a fine dust always rising from it when the file is struck (*shows*), and we draw this in. Besides, we are constantly handling the lead to shift it, to place it right for the work; and often when our fingers are too dry to hold the chisel well, we put them to our mouths to wet them; and we often have to brush off the dust from the iron-plate on which the lead rests with our hands, so (*showing*), or the lead would not lie so firm. A piece of lead soon gets worn out, more or less quickly according as the files are fine or rough. With an average kind of file such as this, a piece lasts about a day, but with some kinds it may last three. We keep moulds in which we "teem," *i.e.*, cast our own lead, and use up the old thin pieces.

Dr. Hall, of Sheffield, wrote in the papers to say that file cutters should be very careful, and that no one ought to eat his meals without washing his hands, or sleep in the same shirt in which he works. One file cutter here lost the use of his arm, and the doctor said that the lead had got into him. The work is bad for the appetite too, I think. I many a time feel fainty, and do not know how to eat anything, and when I am poorly have to be propped up because I feel such a beating here (chest).

[Looks under 40, and not healthy.]

133. In Oughtibridge, also, files are made as well as cut in small shops, in which from two or three to half a dozen persons work. The workers were described to me as in a very comfortable condition, and not much given to excessive labour.

134. *George Ibbotson*, file cutter.—Six persons work in my shop here at forging and cutting files. Myself, two men, and three of my children, two of them boys and a daughter. I set the boys so much to earn in a day, and this keeps them about 9 or 10 hours at shop. My daughter, Sarah, is on her own bottom. We weigh in to the manufacturer, who sends a person round at intervals for the purpose. Payment is always made in money. There was a deal of barter, and people had to take cloth, &c., but it has not been so of late. There are plenty of file cutters in the place who work 14 hours a-day, starting while 6 a.m. and working while 8 or 9 p.m. Some make more than 14 hours a-day at times; it depends on how trade is. Very often them that is bound apprentices is kept close to their work. File cutters usually do not work more than six or seven hours on Monday, and little on Saturday. The work is done in shops like this.

135. *Thomas Blackburn*, file cutter.—Most people in this village are file cutters. Some of the largest shops have a dozen people in them. Boys and girls begin from 9 or 10 years old. People usually work 12 or 13 hours a-day, viz., in summer from 6 a.m. till 7½ or 8 p.m., and in winter from 7 a.m. till 7½ p.m.; but there is not much done on Monday or Saturday.

Crinoline.

MESSRS. G. GRAY AND CO.'S CRINOLINE STEEL AND SKIRT MANUFACTURERS, POND STREET.

136. Manufactories of this kind in Sheffield, have hitherto been treated as falling under the Factory Acts, not indeed entirely, but as to those departments in which most of the workers, chiefly females, are engaged. A few weeks ago, however, and after my visit to the manufactory of the Messrs. Gray, the Sheffield magistrates dismissed a summons against a crinoline manufacturer in the town for exceeding the factory hours, on the ground that the manufacture did not come within the terms of the Factory Acts at all. They, however, granted a case to the superior Court on the point, but this has not yet been brought forward for decision.* Some explanation of the processes carried on is thus rendered necessary.

137. The manufacture consists of two branches; viz.,

(1.) The preparation of the steel by tempering, &c. carried on in a part of the works called the furnaces.

(2.) The covering the steel with fibrous substances, and making up the skirts, with incidental processes of winding, sewing, &c. Only very few females are employed here in the former branch, but many, some hundreds, in the latter. The Messrs. Gray employ thus at times as many as 400. Till lately it was only the departments in which the thread, &c. is wound or woven and the steel covered, as well as those in which sewing machines are used, which were considered as under the Factory Acts; but in the past year, 1863, the Factory Inspector notified that the making up of the skirts also fell under those Acts with the other processes, as being carried on within the same premises.

138. It may be well to state that the mode of covering the steel varies. In some kinds the cotton threads used for the purpose are interwoven round the steel in such a way as to form a woven fabric which will hang together independently of the steel, even if it is separated from it. In some, the thread is merely wound round the steel just as on a reel, in such a way that though it completely covers the steel with a fibrous surface, this surface is not an independent fabric, but is held together only by the steel which supports it. But both processes are performed by steam power on the same premises.

139. The furnace department, however, which is within the same "outward gate or boundary," and has been seen by the Factory Inspector, has never been treated as within the Acts. Night work takes place here sometimes throughout the night by relays of hands, sometimes merely by a prolongation of the hours of the day set. On my reading over the evidence of a boy, that he had worked through a night as well as by day, it was stated that this must have been accidental and without the knowledge of the employers. The shafts in the factory are securely fenced, though of the same kind as some which I have noticed in factories elsewhere, especially at Birmingham, as unfenced, and which it was stated could not be fenced, though accidents more or less serious from it happen there.

* This case has since been decided, and the manufacture of a fabric covering the steel held to be within the Factory Acts.—J. E. W.

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140. Some of the boys in the furnace buildings work close to furnaces and in considerable heat, and it was stated by one of the men that there were none under 13, as they would be of no use, "it was hot "work, and they would knock up before half the time was over." It appears, however, that a few are under that age.

141. Another manufactory at Castle Mills, where the steel is rolled, was till lately carried on under the same firm with this, but the firm is now divided.

142. *Mr. H. Howard*, manager.—This is the largest manufactory of the kind in the town, and I know of but four others here. Until the late notice by the Factory Inspector, it was considered that the girls in the skirt department, *i.e.*, that in which the skirts are made up, could work what hours they pleased, and some did not come till much later than the factory hands, perhaps not till 9 a.m. No inconvenience has been felt from the change to the factory hours. If the women and girls do not come in time to do full work it is their loss. If they cannot do the work in the time we can put on more hands or get it done out. In the busy time we have more done out than in. The busy season is from the end of February till the end of July. Now, *i.e.*, before Christmas, we give none out, and have but a comparatively small number at work in. The women who take the work out employ girls under them in their houses. It would not pay them to do the work without employing girls. They take, probably, from six to a dozen girls from 12 years old upwards. By the time that girls get to be 14 or 15 or so they like to be working elsewhere as young women on their own account. The hours in these houses are no doubt entirely dependent on the amount of work to be done; but so far as there are nominal hours they are probably about from 8 till 8.

143. *Jeremiah Haynes*, age 12, in the furnace.—I tent reels on which the steel is wound, and fire up, *i.e.*, throw coal into the furnace when it is wanted. Always work here close by the furnace; it makes me sweat and my face wet, but it does not ever burn my clothes. (*Is hoarse.*) Have it very bad when I have it. There is a lump in my throat then, and it hurts, but does not hurt lower down. Catch cold when we've water throwed on us; but this work will be nice for winter. There are nine boys in here now, two or three a little younger than I am. Some do the same as I do; some wind or cut up. Our hours are from 6 till 6, but last week (December) we began coming from 7 till 7. Have an hour for dinner, but do not stop for breakfast; get that as we work. Am paid by Mr. Gray 4*s.* a week. When there is plenty of work we work a good many nights, three or four in a week, while 10 and 11 o'clock, and once worked from 6 Thursday morning till 6 Friday evening without stopping, except for meals, and came on again at 6 Saturday morning. Sometimes have worked here days and nights by turns. When we stay late we do not stop for tea, but get it as we work. There are about eight women and a girl, perhaps of about 15, in the furnaces here.

Went at 9 years old to work at Castle Mills at rolling steel for crinolines. The proper hours were from 6 a.m. till 6 p.m., but we made overtime about two days a week while I was there, which was not long; sometimes till 11 or so three nights a week, once till ¼ to 1, and sometimes I worked three shifts running, *e.g.*, a day, a night, and a day. When I was about 10 have worked two days and two nights running without getting any rest or sleep, except at meals. Was very sleepy, and sometimes have fallen asleep at my work. Was not beaten or found fault with for it, but the boys throwed water on my face to waken me.

Once the master's (man's?) son kicked me, and the master hit him for it; and another time a man kicked me, and when my mother came to speak about it he said he would kick her; he "got the sack." There was another man, a Brummagem chap, who was always scabby, *i.e.*, agate of hitting on us, one minute a hitting on us, and another talking pleased to us. He used to get beer, and was drunk. The master used to call at him for acting so soft. One time when he was striking at me with his fist I tried to get out of the way, and my shirt nearly catched the shafting. If it had I should have been took round and killed. No lads were hurt except one, who got his finger off.

Worked also at another place in Green Lane, pulling out steel for the cutters-up. The hours there were from 7 till 7, days one week and nights the next.

Cannot read. Ran away from school to get to work, but would rather go to school now to get to learn to read. Cannot tell "reading" letters such as those (*i.e.*, my writing, J. E. W.), but can tell those in a book. Go to school always on Sundays. Have not heard of Abraham or the Gospel. The Bible tells us what to do and sich. There are somewhere about 30 pennies in a half-crown; am not sure; think about 32. Four times 4 is 8; 4 fours are 16. A king is him that has all the money and gold. We have a king. (Told it is a queen.) They call her the Princess Alexandra. (Told that she married the Queen's son.) The Queen's son is the Princess Alexandra. A princess is a man.

144. *Alfred Bishop*, age 11.—Mind the fires Only came to-day, but worked here before, but had to go away because I had my throat cut. The steel broke and flew, and cut me. (*Shows deep scar of more than three inches along side of throat.*) Bleed? Yes, for half an hour. It was sewed up. I fell on the floor, and could not tell anything for five minutes. Oh, yes, I fainted. Was working nights then. Always worked nights, from 6 to 6, not on days.

Can read a bit. "D-o-g" spells "God;" can't spell "cat;" "t-h-e" spells "dra."

[Face grimed with black. Another boy of 13 said that he could only "read a little bit."]

MESSRS. COCKER BROS.', WIRE MANUFACTURERS, NURSERY STREET.

Crinoline steel and wire.

145. In one of the shops in which two young boys work there is a considerable amount of steam machinery and bands, the boys winding wire at one machine. In another room, where four or five young boys work, the side of a wire-drawing table, which ought to cover up the machinery, has come away and not been replaced. The boys have nothing to do with it; but as the machinery consists of many cog-wheels, and dangerous machinery is often found tempting to boys, it would be better safely covered up again. No accident, however, has happened here.

146. One boy (No. 149) gave an account of serious overwork elsewhere, and volunteered more than once the remark, that a boy upstairs (No. 150) had worked at the same places, and could tell me about them. I immediately afterwards questioned No. 150 upstairs, making no reference to No. 149, so that he cannot have known of my having questioned the first boy. I afterwards returned to No. 149, telling him what No. 150 said, but he repeated that he himself had worked as he had stated. The two accounts should be compared, as they differ in slight details; but from the manner in which the boy (No. 149) gave his statement, and the clearness with which he stuck to it after several questionings, coupled with the likelihood that if one boy worked the other could on that account be spared, my belief is that the statement of No. 149 may be taken as quite truthful as regards himself.

147. The manager in stating that he did not think that the boys ever made more than a quarter of a day over said that it might happen without his knowledge, the boys being under the men.

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148. *Mr. T. F. Cocker.*—The day's work is from 7 till 7, and Saturday till 3, with two hours for meals. Sometimes overtime is made till 10 or 12 p.m.; but I do not think it right that young boys should do that, so ever since last spring I have given directions that when this was done more boys should be put on, *e.g.*, three in place of two. Their work is chiefly scouring wire, and they can get on with it independently of the men.

We have other works for converting and melting steel. There are only two or three boys there, one a cellar boy, and one of about 18 who is learning steel converting. I am interested also in some tilting and rolling works. Work there goes on by night as well as by day when there is enough demand to need it.

149. *Martin Hefrin*, age 11.—Wind wire at a machine. Work from 7 a.m. till 7 p.m. Make a quarter of a day over sometimes, but never more.

Went at 9 years old to hardening and tempering crinoline steel at Tower wheel. In winter the proper hours were from 7 a.m. till 7 p.m., but we had to work over a good deal, and I didn't like it at all. For many and many a month we worked till 9½ at night every day but Monday. [Of course Saturday is also excepted.—J. E. W.] That reckoned a quarter over for each day. Many a time we used to work till 12 at night. Either once or twice—I cannot be sure which—I worked from 7 one morning all through the next night and day, and on till 12 the following night, and then was allowed to come late the next day. This 'ere D—— [the man for whom he worked.—J. E. W.] worked by the piece, and had so much a hundredweight, and he gave me and the other lad with him 3*s.* 6*d.* a week. He afterwards raised me to 4*s.* He let us have an hour and a half or two hours to sleep in the dinner time at night. There was only me and another man to keep the fires up, and we had done work by 12, say, and then had to get up at 2 a.m., and get the fires, &c. ready for the next morning. We never worked in the meal times. The man was very kind to us. I had to live very badly, and if I had no dinner he always gave me a bit. That boy upstairs (No. 150) can tell you the same. We worked there together, and did the same job.

Left that place for more wages, and went to a crinoline factory in Pond Hill, where I winded strip. There we worked from 6 a.m. till 6 p.m., and at another time from 12 till 12 the next day or night, changing turns each week. There we worked in us breakfast half-hour and in us dinner hour. We were forced to, whether we liked or no; we could not help it. Had, I think, ½*d.* for the breakfast half-hour, and 1*d.* for the dinner hour extra. Drew 5*s.* 10*d.* a week, my proper wages being 5*s.* Got the sack there because some lads were throwing about, and the man came in and said it was me.

They never took much trouble with me at school. Before I went to work, mother used to send me to school, but me and another lad used to pretend to go and didn't. But me and another what works here both go to Sunday school now. Can read a little. Know what the Bible is, but not what it is about. Can't read it, and don't know what they read out of it. Heerd saw (say) it was about apostles and prophets, I think. Heerd saw it was about Jesus Christ, and think that He was kind; but I don't know whether people were kind to Him, or killed or crucified Him, or if He is in heaven now. (In answer to more questions afterwards about Him, says.) Heerd talk about Catechisms, but don't know what they are, Sir! After people die their soul departs to hell or heaven. Heerd 'em axing who made us and that, but I never used to take much attention of them. God made us.

150. *James Dunagan*, age 12.—Rub wire with a rag. (Gives much the same account of his work as last boy at the same places of work, but varies in slight details.—J.E.W.) At Tower wheel worked a day and a night running about four times; never worked for longer together than that. Worked from 7 a.m. till 9 or 9½ p.m. three nights a week, viz., Wednesday, Thursday, and Friday, most weeks through the winter. In summer we worked days and nights, so could not work overtime, except a lad was away; then they axed us, and we did it. At the crinoline factory, at Pond Hill, worked over in the dinner hour and had 1*d.* extra for it. Did not work over in the breakfast half-hour. There is a boy downstairs (No. 149), who worked at these two places with me. Cannot say whether he ever worked for more than a day and a night together, but I never did. When I had done that I was off next day and night. Gave my wages to mother, and she gives me some spending money out of it. When I get more for overtime she gives it to me for myself to get a cap with, or something.

Cannot read. There are 20 shillings in a sovereign. 12 months in a year, and 50 weeks in a year. Yes; think it may be 52.

MESSRS. WORRALL AND HALLAM'S, CRINOLINE STEEL AND FLAX PIN, &c., MANUFACTURERS, ATTERCLIFFE ROAD.

151. *William Shorter*, age 10.—Here nearly two years. Roll crinoline steel from round into flat. Mind three rollers and sometimes four. Go home to dinner from 1 till 2. Get 3*s.* a week. We get caught in the bands sometimes by us waistcoats when we are throwing these there straps off. One young boy got his arm broke in throwing the band off.

Can read a bit (does), and go to school on Sundays.

152. *George Birkenshaw*, age 13, cellar-boy.—Can read a bit and write a very little bit. Have not heard of France. London is London. Don't know if it is a place or a town, or if Birmingham is.

153. *Josh. Lambert*, age 13.—Guide steel. Burned my wrist there with the crinoline; was shoving it into the roller and it broke. Burned my elbow before. Was putting the steel to harden and there was water on it. There was wet on the floor and it got on to the steel, and so made the stuff fly out and burn me. Should have wiped the steel first but I forgot. Would rather have this job than be where I was before, because this is hot and that was a cold job.

That was at a crinoline place, where I cut sheet-steel with shears. The steel cut my hands. Was also at tilting works. Worked nights at both from 6 till 6. Was at cutlery also.

Stop an hour for dinner, which my brother brings here, and half an hour for breakfast. Get 3*s.* 6*d.* a week; sometimes mother gives me 3*d.* There is no place to wash in here, but a tub for part of the work.

Can tell some of my letters. A stag is like a donkey but has horns; have heard mother say so.

Steel.

MESSRS. BEARDSHAW AND SON'S, STEEL AND SAW MANUFACTURERS, EFFINGHAM ROAD.

154. *Mr. F. H. B. Beardshaw*, son of the proprietor.—The work carried on here is steel melting, tilting, and sheet and rod rolling. All except the melting goes on by relays night and day, with two hours out of the 12 allowed for meals. We have also a file factory in another part of the town. Women harden the files, &c., and there are a few boys also. The hours there are from 8½ a.m. till 6 p.m., but many of the cutters have blocks at home and can take work with them to do there if they like.

For about a year we carried on some crinoline steel work, but do not now. Women were engaged

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in that in winding the steel, testing it, and in all sorts of ways. That work was very irregular, and sometimes they used to work on from Friday morning all through the night and on to the end of Saturday. Sometimes too if there was an accident to the machinery one day it would throw more work to be made up on the next.

We have a wheel here also for grinding saws, &c., but part of it we let off to independent grinders. Those who work for us pay no rent. There used to be no windows in, or rather they were all broken out but lately we have had windows put in one part as the men complained of the cold. The windows have been fixed so that they will not open, with a view of preserving them better from risk. Now the men complain of this.

155. *James Baker*, age 10.—Lift up at rod-rolling; the rods are hot. Work from 6 till 6, days one week and nights the next. Have twice worked a night as well as the days, because a lad was wanted in the other turn. Go home an hour to dinner. Get 6*s*. a week. Worked here six months ago, and went away because there was no work for me, and have only lately come back.

The burn on my thumb was done at work of the same kind at some other works; it was wire flattening. The burn has not healed since it was done more than six month ago, but is always like you see it now. Can read a bit.

156. *Thomas Darnall*, age 15.—Am a cellar-boy. Have been so at this and other places for five years. Sometimes a melting takes half an hour or so longer, but usually I work from 6 a.m. till 5½ p.m. On Saturdays we begin at 3 a.m. and I have to get up at about 2½.

Can read, but not write so very well. Go to Sunday school sometimes. 11 times 11 is 110,—is 121.

MESSRS. WILSON, HAWKSWORTH, ELLISON, AND CO.'S, STEEL MANUFACTURERS, CARLISLE STREET.

157. These are large new works, with good accommodation for the workers. The warehouse or room in which the females are engaged in whetting cutlery, rubbing off grease, wrapping up, &c., is very airy and cheerful. The cellars, also, beneath the melting furnaces are the most airy that I have seen, having a passage to the open air at each end, which tends to cool the air and seems a great advantage, and one which by proper arrangement might be obtainable in all cases. A boy of 13 was in his cellar patting some clay about in the dinner hour.

158. *Mr. T. B. Hawksworth.*—We convert, melt, and roll steel here. We are also cutlery manufacturers or rather merchants, this work being done for us by people in the town and country round who work for other manufacturers also.

Of late, indeed since we opened these works five or six years ago, owing to the state of trade, ours being chiefly American, we have had no occasion for night work. If trade were better we probably should, as night work is usual in like branches of business. The boys are employed by the men, and work chiefly at taking out metal from the rollers and straightening it. The females are in the warehouse.

We have tilting and forging works at Beelywood, where only water power is used. There the hours of work consequently depend upon the supply of water, and the hands work in the night or day just as it happens. It may be that they begin at 2 or 3 a.m. and work as long as the water lasts, but they would seldom do so for more than 12 or 13 hours. If it came to 15 or 16 they would get a relay. If they could not get a relay conveniently one set might have to work rather longer than they otherwise would. The work would seldom go on through the 24 hours if it could be helped, as the machinery is not suited for it. The anvils and hammers become heated. Newer machinery, however, for the same purpose will work and elsewhere is worked night and day. The workpeople there live on or near the premises and are ready whenever they are wanted. They are likely to know beforehand from the state of the water when this will be.

MESSRS. W. AND S. BUTCHER'S, STEEL MANUFACTURERS, PHILADELPHIA WORKS.

159. *John Edwin Saville*, age 14.—Cut scrap metal at a machine. Work from 6 till 6. Make overtime sometimes till 12, sometimes all night. Do this if a lad is poorly. When I leave at 12 another comes on and makes overtime to fill up the other half of the turn. Have got a scar on my leg here where a sheet of metal slipped and cut me. Have got burned too. Go to school on Sunday when I have got any clothes to go in.

160. *Joseph Chaworth*, age 10.—Work at the rollers. Don't know my Christian name, or what that means. Mother calls me Joseph.

[The proprietor expressed surprise that there were boys in the works so poorly taught, and said that if he had known that the boy (No. 159) was kept from Sunday school by want of clothes they should have found him clothes to go in.]

MESSRS. PEACE, WARD, AND CO.'S, STEEL, FILE, &c. MANUFACTURERS, SAVILLE STREET, EAST.

Steel and tools.

161. *Mr. Alfred Peace*, in the warehouse.—The work includes the melting of steel, and the making of files, saws, table and spring knife cutlery, edge tools, and loom springs, with grinding of the tools in a wheel.

The boys are employed by the men. It is very rare for the steel melters to make any overtime. There are two cellar-boys, aged about 13, and they make lids and stands for the pots; the latter are made by men. Only about seven females are employed in the works, all grown up. Some are in the warehouse and brush and wrap up files, and others in a shop scour the files with sand, which is heavy and dirty work and more suitable for men. There is no washing place which the scourers could use, but there is one for the warehouse women. A girl sometimes blacks part of the work.

162. *John Walter Dakin*, age 11.—Lay on some stuff to the files before they are hardened and put them in the fire. Work from 7 a.m till 7 p.m., not longer. Sometimes come at 6 a.m.

Was never at school. Cannot tell the letters.

[Ill clothed and pale. Works in a small forge like shop alone with his father.]

163. *Joseph Gavin*, age 13.—Have been a file cutter two years; work here under father, from 7 till 7, sometimes till 8.

THE PARK GATE CO.'S IRON WORKS, NEAR ROTHERHAM.

Ironworks.

164. *Mr. J. Taylor*, assistant manager.—These have long been the largest ironworks in the neighbourhood. They employ about 1,300 persons. We make all sizes of iron used in the trade, from the

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lightest up to armour plate and the heaviest work, and particularly a large quantity of railway iron. We do not want boys under the age of 12 or 13, and there would be no objection to a law preventing any boys under 18 from working more than 12 hours in the 24. It is not right that they should work more, as they sometimes have to do to make up another shift. Such a regulation might oblige the workman who undertakes the work to keep a spare boy or two.

It would not be possible for the boys, to have stated times for meals, nor could as much as an hour be spared at any one time, even if the time of day were not specified. The "heats" (metal) must come out when they are ready, or they would be spoiled; and the boys must be there to help. Any fixed times for meals would cause great hindrance and loss. The heats could not be so arranged as to allow of any regularity. The quality of the iron may make a difference as to the time of heating, the shape into which it is put a difference in the time of working, and hindrances may arise. That stopping of the engine just now for 20 minutes owing to something wrong with the pump, would very likely be the cause of spoiling some iron. The boys, however, get frequent intervals of 20 minutes, or perhaps half an hour between the heats, and take their meals in these. Such an interval is seldom more than half an hour.

A prohibition of night work by boys would increase the cost of labour considerably in those departments in which they chiefly work, *e.g.* rolling. I cannot say whether these items would be sufficient to raise the entire cost of the articles produced enough to injure the trade, if all works were under one law. It would not do to allow the younger boys to work only by day as this would throw constant night work on others in the alternate shift, and this would not suit their health. I cannot say up to what age boys could be spared from the night work, but I will put it thus, viz., that it would do boys of from 12 to 15 years of age less harm to work in the night shift in alternate weeks on the present plan than it would do boys of from 15 to 17 to work always in the night shift.

[Mr. Sanderson, the general manager, expressed a general concurrence in the above views stated in his presence.]

165. *George Gardom*, age 12.—Pull down iron at the rollers. My hand is wrapped up because the iron burned it. Work days and nights in alternate weeks. Sometimes work a day and a night both. When my butty (boy in other shift) is badly he axes me to work in his shift. Have not done this many times. Like being on days best, because I get 6*s.* a week then and only 5*s.* when on nights.

Can read and write but not sum.

166. *John Greaves*, age 12 (?)—Don't know how old I am. Scrape scale from bars. Sometimes work a day or night shift over, *i.e.*, besides my own, sometimes half a one.

"M" is "W." Was at day school till a year ago, and go to Sunday school.

MESSRS. G. AND J. BROWN'S, ROTHERHAM IRON WORKS, ROTHERHAM.

167. *Charles Kay*, age 15.—Lift hot bars at the rollers. Work from 6 till 6 on days and nights in alternate weeks. Work a turn or half a turn over about once a week. Am most tired when working on nights. Get to bed then at about 7½ a.m. and sleep while 5 p.m. or as long as I can short of it. When working on days, get to bed at about 8 p.m. and rise at 5½ a.m. When I am on nights, Monday is the worst because I have been to bed on Sunday night, and cannot lie in bed on Monday, so I am up for 24 hours running. It is very seldom as ever I do go to bed on Monday then.

Like being on days best. When I was in another part of these works I had to work always on nights. The head man always worked in the day turn, and the other man, who was properly a furnace man, and not such a good roller, always in the night turn. I was not such a good catcher as the other lad, so the head man would not have me to work for him. The burn on my arm is from the iron.

THE STAVELEY IRON CO.'S WORKS, STAVELEY.

168. *Mr. Daniel Parker*, in the office.—Work at the blast furnaces goes on day and night, but only men are employed in connexion with them. The foundry hands work only by day from 6 till 6, as do also the fitters in the machine shop, and the persons engaged in drawing patterns and shaping them in wood as models. In the foundries some of the men are paid by the piece, *i.e.* at the rate of so much a ton for what they turn out. This is done where castings of the same kind are made day after day, *e.g.* pipes, so that what the men can do in a day is easily calculated. Where this cannot be done, owing to the castings being of different kinds, they are paid by the day. Where the work is piece work the boys are in the employment of the men, and their time of work is more irregular and more liable to overtime than that of the day workers. Piece workers please themselves as to the amount of time which they take for meals. There is again a third kind of work called "set work," *i.e.*, when a certain quantity is set to be done in a day.

There are about six other iron works in the neighbourhood of this place and Chesterfield, several with blast furnaces, but these works here are some of the largest. A triangle drawn from Sheffield to Eckington and Chesterfield would include most of the Derbyshire iron working district. The system of work as to hours, &c. is, I believe, much the same as in the corresponding kinds of work here.

169. *Samuel Thompson*, age 12.—Riddle sand in a foundry. Begin at 6 a.m. and leave at 6 p.m.; sometimes at 5 or 4. Sometimes make a quarter or half a day over, *i.e.* till 9 or 12 p.m. Have worked from 6 a.m. till 12 p.m. for a fortnight on end, could not do it any more, it was so late at night. Live half an hour from here. Get 1*s.* 2*d.* a day. Do not get any of the extra wages for overtime for myself. Saturdays we have to come at 2 a.m. and give over about mid-day. Have time for meals just while we eat them, but no more. Can read well.

170. *Samuel Fletcher*, age 13.—At moulding in another foundry. Have not made much overtime in this. It is day work. Have half an hour for breakfast and an hour for dinner. Have sometimes begun work again before the dinner hour was over but not very often. When under a man who worked by the piece in another foundry here, I have made a quarter of a day over three nights in a week. Can read and write.

171. *Thomas West*, age 13.—Fettle, *i.e.*, knock sand off the iron with a scraper. Work from 6 a.m. till 6 p.m. Sometimes make a quarter over till 8 p.m. not later. Have half an hour for breakfast and an hour for dinner. Get 7*s.* a week. A lot of other boys do the same work. Can read, write, and do sums a little.

MESSRS. W. AND G. DAWES' IRON WORKS, MILTON AND ELSECAR.

172. *Mr. Richard Jukes*, general manager.—Only men work at the blast furnaces. The puddlers have a few boys to sweep up for them, &c. Both these branches of work go on day and night in the usual

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way. There are some boys in the foundries and apprentices in the fitting ships. Both these classes of hands work by day only. Most of the boys are employed in the rolling mills. Only the fitters are paid by the firm. The rest is contract work and paid by the men who contract for it. At Elsecar the work is of a heavier kind and there are not half so many boys employed there as here at Milton. The system of work is the same in other iron works in the neighbourhood. These are about the largest, the two works together employing perhaps 700 persons.

173. *George Shepherd*, age 12.—Work at the rollers. Was turned 8 when I came here. Used to lift up the door of a furnace at first. Stood about a yard from the furnace ; it was very hot work. Have always worked days one week and nights the other. Have about half an hour for breakfast and the same for dinner. Have worked a day and night running three times. Did not go on again next day. Have also worked on till 12. Last Monday worked till 9 p.m., *i.e.*, 15 hours. When some lads don't come the others make up the work between them. Take home 10*s.* a week. (Quære, including his brother's money ?) Mother gives me 2*d.* for spending money, but does not put any in the bank for me. The men are kind to me. Get burns on the arms from the hot metal.

Know the letters but cannot spell ; know the the figures separately, *e.g.* "1" and "5," but cannot say what "15" is.

174. *Walter Shepherd*, age 10.—Was going in 8 when I came here. Pulled up the door at a furnace at first. Work days and nights in the same way as my brother George (No. 173). Once they sent and called me out of bed at 12 at night, when a little boy got burned. Worked on till the next night. Have worked on till dinner time next day after working on the night turn. Get tired when I work like that. Don't know what I earn. George takes the money to mother for me and all. My eyes are sore. (Look weak and subject to sties.—J.E.W.)

God is up at sky. Have heard of Moses in the Bible. Adam and Eve lived in heaven.

175. *Markham Morris*, age 12.—Heave up at a roller (in another part of the works). There are about 12 boys in each turn there, and rather more in this (first mill). The work tired me when I began, *i.e.*, two years ago, but I can do it now. Have worked half a turn over four or five times in a fortnight, but only once worked two turns together. Am sometimes a week, sometimes three weeks or more, but never over a couple of months without working over so. It all depends upon how often there is a lad short. Have his money then. Get 5*s.* a week. Get sometimes half an hour, sometimes an hour for dinner. Like working nights the best, because I have not to work in the last turn on Saturday and so get done, and get the reckoning sooner.

176. *William Reed*, age 12.—Pull up a door at a furnace in the Elsecar works, not here (Milton). Two or three younger than me do the same work days and nights in turns in the same way. Have had to get up the furnace on Monday for the puddler's under hand, who ought to have done it himself, and then to work my own night turn as well. He paid me for it. Have worked two turns together four or five times. Get 1*s.* 1*d.* a days.

177. *Frederick Brook*, age 14.—Make cores with sand in the foundry. Hours are from 7 a.m. till 6 p.m. Make overtime about once a week, sometimes till 8 or 9 p.m. the latest has been a $\frac{1}{4}$ to 10. Have half an hour for breakfast and an hour for dinner. The Queen is Queen Bertha : yes ; is Victoria.

[Bare shoulder showing through large tear. His father is foreman in the same shop.]

178. From what I learned at some iron and steel works which I visited in the neighbourhood of Mexborough, and as to others near, they all seem to correspond closely with works of the same kind, of which accounts are given elsewhere.

179. At some small steel works at Swinton (Wilson's), in this neighbourhood, I found a boy of 7 years old who "picked scrap," though he is only occasionally employed. A boy was killed here by being drawn through the rollers. He did not work there, but had only "come in to clatter" with others, and falling against the space between two adjoining rollers was drawn in. Loose boards are now placed at this part, but they are not a sufficient protection.

MR. J. ASKHAM'S, TABLE KNIFE MANUFACTURER, BROAD LANE WORKS.

Cutlery.

180. The works are cramped, and in a neglected, untidy state. In one very small shop I counted 10 panes broken, three stopped up with paper, and the remainder brown with the "sauce," glue, and emery thrown off in the course of the work. In a gloomy bone-cutting shop heaps of rough bones were lying. In a hull on the same premises used by fork grinders some bands cross very awkwardly at the height of the knee, covered by a box unfixed, which I nearly knocked off in stepping over. A fan has been put up, but only fitted to two out of all the troughs. In one dark room were a man, his wife and baby, and four young children, one just 7.

181. *Thomas Phillips*, adult.—Saw bones for scales at a circular saw driven by steam. It is a very dangerous job ; you can't help cutting yourself. You daren't usually put young boys to this job ; they would be laming theirselves. The bone is held in the fingers, and you could not push it with a gauge, except for certain articles. I began when I was 14. This box is put to keep the dust out of the eyes, or you would cut your fingers off. There is more dust where the bone is cut dry ; ours is damp. It is boiled first for the sake of the fat that comes out. You swallow dust, but bone will disgest. It hurts the breathing of some people.

182. *Richard Mittam*, age 14.—Saw bone at a steam circular saw. Have been at it four years at this and another place. Have cut my thumb and two fingers three or four times at it. The longest time that I was away for a cut was two months. Very often have a cough ; think it is from going out in the cold. Used not to have it. Work for a man here who gives me 7*s.* a week. Work on Monday from $8\frac{1}{2}$ a.m. till 5 p.m. ; Tuesday from $8\frac{1}{2}$ a.m. till 6 p.m., and longer later in the week, but not longer than from 7 till 7, and on Saturday till 3. Have an hour for dinner. Where I was before the hours were in much the same way, but rather longer.

Cannot read or spell at all.

183. *Emma Cheetham*, age 7.—Have worked here twelve months with my father. Am just 7. Do odd jobs and run errands. Come at 9 and leave at 7, sometimes 8 p.m.

Was never at school.

184. *Albert Spinks*, age 11.—File wood knife handles. Work from 8 a.m. till 7 p.m. Where I was before I worked from 7 a.m. till 8 p.m., and sometimes till $9\frac{1}{2}$. Have an hour for dinner here. Get 2*s.* a week.

Don't know the letters. Was never at school except on Sunday, and don't go to that now ; father or mother don't tell me to go. Was never inside a church or chapel.

[Very ragged. Has a cough.]

185. *Joseph Sellar*, age 13.—Drill holes with a fiddle, and push the plate of it against my breast ; it does not hurt me.

Never at school since I was 9 years old.

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MR. J. SHIRTCLIFFE'S, IVORY, PEARL, AND TORTOISE-SHELL CUTTER, WEST STREET.

186. The fact that the greater part of the manufactory is let off to small employers or independent workers in several different trades may account in some degree for its bad and neglected condition. In several parts the shafts, bands, &c., are awkwardly placed, and need protection, particularly in one or two shops where some females work. Boards are put up as guards in some places, and, as it was stated, wherever the proprietor thinks that there is danger ; but his judgment on this point must be rather loose. In two or three places a slight want of attention on my part while passing to reach the workers, or while speaking with them, might have been serious to me, as, indeed, I was warned in a hull.

187. *Mr. Robert Shirtcliffe*, son of the proprietor.—We let off the greater part of our works to persons working in several different trades, *e.g.* grinders of different kinds, spring and table knife cutlers, pearl cutters and fluters, ivory carvers, turners, silver buffers, &c. A small master, occasionally a woman, will take one or more of the rooms, and employ the workers in it. One manufacturer takes six rooms of us. Including the wheel, there are probably from 250 to 300 persons on the premises, but I cannot say accurately.

We open the works at 6 a.m., and in winter generally at 7½. We close them at 9 p.m., and have great trouble to get the people out then. Some would work all hours if they were allowed to stay ; but then they do not come regularly. I have seen many coming in at 9 a.m., even when they are busy.

Wherever we find a dangerous place we put a board over the machinery. Bone and ivory are worked dry, and cause a good deal of dust. The pearl is cut by circular saws, the tortoise-shell by hand.

188. *Sophia Cockin*, adult.—I rent this room, and employ a few girls in it on cutlery. I began cutlery work at 6 years old. They lifted me up on a stool to reach my work, as I was not big enough to get up myself. My lass, now dead, began cutlery when three weeks turned 6 years old. Bless you ! you'll find little ones at it up and down now, some, I dare say, nearly as young as I was. The trade is up and down so that people are obliged to put their children to it as soon as they can bring in anything. There's many a little nattling job that little ones can do in it.

When I first began I and my sister worked for mother, and then in a shop like this for my uncle. Even then he would have us up at 5 and 6 in the morning, and keep us at work sometimes till 8, but many a time till 10, 9, and 11 at night. At first, when at work late, I have fallen asleep with the work in my hand, and mother would hit me over the head to wake me up. When I were a lass I have many a time worked all night on Friday ; and after I grew up and married, for years I never went to bed on Friday night, because I was slaving for my children. On other days I have often worked from 4 and 5 a.m. till 12 at night.

I have a cough (*she had coughed several times*), and a pain in my chest. It is from the dust made at the lathe. I am very tired of the work now but am obliged to keep on at it. It is easier for the bones now that we use steam power, but it is worse for the chest, as so much more dust is made. Working the lathe with the foot I should sweat even at Christmas on the coldest day with frost and snow on the ground.

The girls don't get caught here in the shafting, though we hear of such things at some places. I have been very careful about machinery ever since I was a girl 9 or 10 years old. We girls in some works of this kind were playing at hiding, and one about 14 years old hid beside a drum in a wheel not then working, and it was started and crushed her to pieces. They had to pick up her bones in a basket as they found them, and that's how they buried her. Girls are soft, giddy things. That one there, now about 14, is a dragon for getting into danger, and I have great trouble with her. If I was not looking she would be putting her foot on the shaft, very likely ; and once she sat down upon it, just to see how it felt when it was set agate.

The master does not have the shop cleaned ; we must do it ourselves. But after working so long we are too tired. That heap of bone dust (a bushel or two) in the corner has been gathering for many a week. It is three weeks since we swept the rest of the shop. The dust is swept into the corner.

189. *Margaret Jane Sanderson*, age 13.—Work for last witness. Was nearer 7 than 8 when I began cutlery. It was in a shop where only a man and his wife worked. Come to work here usually at about 8 a.m., sometimes at 7 and 6 ; and work till 8 p.m., sometimes till 9 and 10. Have an hour for dinner and half an hour for tea. Go to the frame (lathe) there to glaze.

190. *John Lovatt*, age 9.—Work here (in another shop, J. E. W.) under my cousin at cutlery from 7 a.m. till 7 or 8 p.m., and till 8½ on Fridays. Have been at the work three years. Fell under the shafting there and broke my leg. Was laid up altogether 14 weeks with it.

Cannot tell any letters.

191. *Henry Slater*, adult.—What my cousin (No. 190) says is quite right. Some begin work very near as soon as they can crawl. Let him have breakfast, an hour for dinner, and drinking at 4½. He earned 1*s.* a week when he began, and now gets 3*s.* He is about as sharp as a Sheffield whittle when he likes.

192. *Ellen Watson*, age 11.—Have worked at cutlery here two years. Have the same hours as the boy (No. 190). Have worked till 10 p.m., but not very oft.

Know the letters, but cannot spell. Do not go to Sunday school.

193. *William Watson*, cutler.—There are many a score and hundred girls in Sheffield at the same work as my girl (No. 192) ; some from 6 or 7 years old. We're forced to put them to it. There are more girls in proportion now than there were at the work, because hardly any will let their boys come to it because it is got so low.

194. *William Turner*, age 12.—Have worked at cutlery for father seven years.

Don't know anything about the Queen or England. Don't live in England. Think it *is* a country, but didn't know before. There are six days in a week. There is another day ; altogether it makes (*after a long pause*) seven days.

[His father said that it was true that his boy had worked for him seven years, but that though he flogged him to make him go to school, the boy "*would* come to the "shop." A girl of 11, with fuzzy untidy hair, and her dress torn leaving her shoulders bare, had worked at cutlery for her uncle three years.]

195. *John Leedham*, age 14.—Cut pearl scales at a circular saw. Am very careful, but cut my hand at it. Work from 7 till 7, and on Fridays till 8. Throw the band off with a stick.

196. *Edward Jannet*, age 16.—Now apprentice to a table-knife grinder at Rodgers' wheel. Worked at cutlery before at a small place. There was only one boy besides me. I war but a little 'un when I went ; must have been about 8 years old. There were no regular hours. Sometimes went at 6 in the morning

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and worked till 9 at night, and on Fridays sometimes till 9½ to finish for Saturday, but that was the latest. Did not work so late just at first till I got into the work, but it was not more than a month before I did. Did not work much at the beginning of the week; may happen half a day on Monday, according to the work. Had about 20 minutes for dinner, and took it there, and about a quarter of an hour to us teas, and breakfast about the same or while we could swallow it. Took tea and sugar and made it hot there. Got paid according to what I did, but before I left used to look for 6*s.* a week, which master gave to mother, and I had 1*s.* and sometimes 1*s.* 6*d.* spending money besides.

Have not been at Sunday or night school except once or twice, when I went to Sunday school because they were going a trip, and I went the trip by train. Can tell any letters, but not spell them or tell any figures. Do not know the Queen's name. Have heard of Queen Victoria, but did not know that that was the Queen's name.

MESSRS. UNWIN AND RODGERS, CUTLERY MANUFACTURERS, PENISTONE ROAD.

197. Some of the work-places are cramped, with dark and inconvenient approaches, but they are, I was informed, considered good in comparison with many cutlery work places. In one shop where power is used the shafts are open and unsafe, at any rate for a woman who works at times with her skirts close to them. A band is thrown across, when needed, from one bench to another, crossing at about the height of the knee. One of two twin sisters, aged 16, who work with their father in a cutlery shop, stated that she had worked as long as from 5 a.m. till 9 p.m., but usually only as long as she pleased.

198. *Mr. John Unwin.*—We reckon 10 hours about the average day's work. The engine runs 12 hours, stopping an hour for dinner, but much of the work does not depend upon power. The works are open at 6 a.m. and close usually by 9 p.m., though they are sometimes open till 10 p.m., but all must be clear out by then. The night watchmen fires a pistol at 5 a.m. and 10 p.m., and any person found on the premises between those hours would be considered as being there for an unlawful purpose. The men work by the piece and come and go when they please. Some will come for only five or six hours in a day at the beginning of a week, and for 15 at the end. But most seem to know very well what a day's work is, viz., 10 actual hours, and few as a rule average more. One man, who works an expensive piece of machinery, a hammer, and ought to make 30*s.* a week at it, is now keeping it standing, He has not been here at all this week, and it is now Friday evening. This keeps back some of the forgers, and they again the grinders. Generally speaking the blade makers come the first thing in the morning and leave early; the cutlers come late and like to work at night.

A limitation of work to 12 hours would only touch Friday, and perhaps Thursday, as I scarcely know of men making lads work more than 12 hours except on those days, if then. Boys may certainly be tempted to work over at times, because, though strictly speaking they are paid only by the day, the men set them a certain amount to do in a day, a kind of piecework in fact, and if the boys do more or work longer the men give them something for themselves, "spending money" as it is called. Boys make a good deal of money in Sheffield in this way. Just before Christmas all like to work longer, and in Bull week they will work all night. There is no limit to their work then.

We have, perhaps, about 150 persons directly or indirectly in our employment here, and about 100 at other works of the same kind in the town. The hours and mode of work are the same there as here. We employ females in the warehouse work but hardly any in the shops.

But besides this a large number of persons work in our wheel here as grinders though quite independently of us and not under our control, except so far as our supplying the power. We let off I believe nearly as much power to grinders as any private wheel. Most of the wheels in the town are connected with a manufactory of some kind. Wherever there is much power it is usual for a manufacturer to let off part to other trades. We have about 70 troughs in our wheel, and each of these is occupied by two or three persons, occasionally more or less according to the kind of work.

There are, however, several public wheels independent of any manufactory, such as the Union and the Soho. Where a wheel is independent of a manufactory there is usually an overseer or agent to let the troughs and collect the rents, and of course an engine tenter in charge of the engine, but no person who superintends the actual management of the place.

Our works are a very fair ample of cutlery manufactories in the town generally, and their system of work, as we make cutlery of most kinds, *e.g.*, table-knives, all kinds of spring knives, razors, scissors, and also grind these as well as saws and files. There is nothing in the nature of the work itself which would make a difficulty in requiring regular factory hours, though it might perhaps be said that it was interfering with the liberty of the subject.

The short day on Saturday has been becoming very general in Sheffield, especially in the last year or two. Work used to go on then till 8 p.m., and has gradually been shortened an hour at a time up to 4 o'clock, and in some cases much earlier. The railway not running goods after 3 p.m. on Saturdays has been a great cause of this.

199. *Samuel Hawley*, cutler.—My brother and I employ all in this shop, viz., four boys and a woman. The woman glazes and does everything just the same as a man. We do almost everything by power now. Boring the holes was formerly done by pressing the tool against the breast, which was painful and injurious. By using power this is avoided, and a person can do four in the same time that it took him to do one.

With glazing the effect of using power is not so good, as so much more dust is caused. If you had come in here three-quarters of an hour ago when three or four of us were at the same sort of work, you could not have seen across the place for it. The bone dust smells very much, and lies more on the stomach than the metal dust, which our work also makes, but is not so injurious. The bone cutters here consider the smell healthy. We smell it awful when we come to work on Monday morning, *i.e.*, after being away for Sunday.

200. *Frederick Hawley*, age 12.—Do cutlery work, glaze, &c.

Went to school for a year, but had to come to work when mother died. Can tell some of the letters, not all. Can't tell what four times 12 is, (but knows twice and three times 12.) Don't know how many weeks or months there are in a year.

[This, the youngest of four boys, brothers, working in the same shop, was supposed to be the "best scholar" of the lot, being the only one of five brothers that had ever been to school.]

201. *James Harrison* and *Walter Deakin*, table-knife hafters.—We have worked for many years in this branch of the cutlery trade. It has been for some time in a very depressed state. Some years ago there were 1,300 men besides from 60 to 80 women, and 400 or 500 boys and children engaged in it. We have lately taken a census of it and find that there are now about 500 boys and girls under the age of 18,

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most of them boys; about 960 men, at the outside 1,000; and perhaps 100 or 150 women, chiefly working with their husbands in shops. There are plenty of children in it as young as 8, but few younger. The most usual age for them to begin is about 8 or 9.

The work is carried on partly in large factories, partly in small factories and shops. House or garret work has been decreasing for the last 20 years, and is now almost gone. Men find that it answers better to work in places where they can have the advantage of power. The proportion, however, of those employed in large factories, and those employed outside varies with the state of trade, the tendency of bad trade being to discourge large masters from keeping workpeople regularly employed on their premises. Perhaps at the present time about half work in small shops up and down the town. But in many cases some of those who work in factories are really outworkers working on their own account or for other masters. We should call a place a factory where as many as ten or a dozen work.

In one or two of the best factories the hours are regular and moderate, but generally speaking there are no fixed hours of work, the gates opening at 6 and closing at 9, sometimes 10 p.m. Taking the trade through, table-knife hafters generally work 14 or 15 hours a day, and are at the same time probably the worst paid class in the town, not making on an average, after paying all expenses, more than 16*s.* a week. Table-knife hafters have to pay the manufacturer 1*s.* a week for the use of their bench and power, as well as find their tools and pay several other items for materials used, *e.g.*, lead to put in balance handles, rivets, &c., which will often cost more than the manufacturer allows for them. The whole outlay off the wages for these things comes to, say 20 per cent.

To get money for these purposes to enable him to start a week's work a man has to put by part of his previous week's earnings, or often if he cannot do that, has to borrow it of the master, or raise it in some more objectionable way.

The poorness of the pay seems connected with the length and irregularity of the work hours. In 1843, the hours were regulated by the trade and limited to 10 daily. We are confident that manufacturers sent away then more goods in proportion to the number of hands employed, than they have since that rule was broken down, as it was after the panic of 1847. Men worked regularly and did not waste time as they do now. We should say that there is more loss of time in Sheffield than in any other town. If one branch of work is behind it throws another out. Thus the grinder must wait for the forger, and we for the grinder and scale-cutter. Hence, when we want to be at work we often have to be sending notes about for different parts of the material. Manufacturers would be in a position to prevent this loss of time from waiting for materials much better than we can, if the practice were for them to provide the materials. But they probably would sooner not have to keep the stock which would be necessary.

The shorter hours were much better for the workpeople too, as they could get out in the evening, and have a game at wickets or exercise if it was summer, whereas now they never know when they have done. Also before we had this regular 10 hours work it was but few who could afford to dress so as to follow the funerals of members of the society, which members were requested to do, whereas after the change they followed by hundreds. There is less necessity for irregularity of work than formerly, as there is now less distinction than there was of home and foreign seasons, which form the two halves of the trade.

Our trade has tried hard to re-establish our former system of short and regular work, but we are quite unable to do so. It would not, perhaps, do to limit men's work by law, and we might not like it ourselves, but it is desirable that the work of the young at least should be so limited, and we should like it for our own children.

It is true that it would be less easy to carry out a law of this kind in small shops than in factories, and in factories such as those in Sheffield, where nearly all the children are employed by the adults, than in factories such as those in Lancashire. But we think that it might be done not only in the factories, but even in the small shops and homes, say, by putting on a small fine, which was the way that we enforced our rule. We do not think that it would be thought more hard in a case of working at home than in a factory. There are plenty of people here who would let it be known if the law was being broken. But if it were impossible to carry out such a law effectually in the small places, we do not think that this would be felt as an injury to those who work in other places. In one of the largest and best cutlery factories, where there is a rule that the works shall close at an early hour, the men never grumble because others can work longer elsewhere.

The spring-knife cutlery trade is very much like ours as to system of work and workplaces, but the proportion of boys is greater. Table-knife hafting includes the hafting of forks as well as knives.

Many factories are quite unfit for workplaces. More have ventilation than had formerly, but many are very deficient in this respect, as well as dark and crowded and shamefully dirty, and also dangerous from exposed shafts, bands, and drums. There should be some means of seeing that they were put in a fit state, broken windows mended, rags and dirt cleared away, and machinery boxed. It is not possible to fence off machinery entirely as some bands must be left open, but a great deal might be done. We knew a man who was caught by his neck-handkerchief in a band and hanged dead, and a woman who had her dress caught in a shaft and stripped clean off her back, both in cutlery work. The daughter of one of us (J. Harrison) had her dress stripped off in the same way by a shaft in a cutlery shop twice in one day. The work was polishing wooden knife handles.

The work, table-knife hafting, was one of the healthfullest in the town, and men lived to a good age, but since steam has been so much in use, *e.g.* for glazing the hafts, &c., it is quite altered owing to the amount of dust which is caused. People ask, "Where are the old men, now?" You may see men as white as snow from the bone dust, though caused, not by themselves, but by others near, and coming out coughing and spitting from it. Last winter I (W. Deakin) was working amongst others in a dusty place and it nearly killed me. This winter I am at another place where I am not exposed to others' dust, and I am quite different,—not like the same man. Fans would quite remove all this dust just as well as in the grinding wheels, and the men want to have them but cannot afford it.

Apprenticeship, which was the rule in all trades in Sheffield, is now to a great extent done away with, as it is in ours, owing chiefly to the greater cheapness of our work which makes a man less able to keep apprentices. In one way boys get the benefit of this, as they earn more money earlier, and a man must pay them their worth or some one else will and tempt them away by giving more. But, on the other hand, boys are often kept at one part of the work instead of being properly trained in all, and thus do not become properly experienced workmen. The boys are generally kindly treated by the men.

Many table-knife hafters cannot afford to dress their children well enough to send them to Sunday schools, and many even of the adults are extremely ignorant.

202. The above statement was afterwards concurred in by two other table-knife hafters (James James and William Wales), and they, with the only one of the above witnesses then present (J. Harri-

son), estimated that probably as many as a third of the adult table-knife hafters could not read or write. It was also stated that out of the 10 boys, of ages from 10 to 17, in a factory in which one of the witnesses worked, only two could write their names, but that as many as a third could read.

203. *Mr. Francis Bownes*, secretary to the spring-knife cutlers. — The chief change that has taken place in our trade in the last 20 years is that the great bulk of it has gradually come to be done in regular factories instead of in private dwellings and small shops as was formerly the case, and that the earnings are lower. The advantage of working with steam power is what has chiefly led to working in factories, but I do not think that it is the increase of factories and the improvements in them which have sunk the price of labour. There is still work in small places in the town, and in the country district round. In the latter, people still work in their dwellings or in small shops attached, or in their garden, &c. Some work will probably always continue to be done in this way, as the price of the labour has now sunk so low that even the use of steam cannot well sink it lower. Nearly all the work out of Sheffield is done in villages within five or six miles of it, especially Wadsley and Stannington. A little is done in London and Salisbury, but there are no spring-knife cutlers in any other part of the kingdom, except mere jobbing cutlers. The trade is about the largest in Sheffield in point of numbers, except the file trade. The number of persons engaged in it remains much as it was. According to the account taken in 1862 and delivered at a trade conference, since which time there has been no change, there were then between 2,200 and 2,300 men and several hundred boys,—somewhere I think between 500 and 900,—with a few females. Sixteen years ago there were about 2,400 men. The boys are from 9 or 10 years old up to 21, but as the work is light and ill-paid, and therefore given up as soon as any better work can be obtained, the greater part of the boys will probably be under the age of 16. Just at first boys run errands part of their time, but soon begin to work regularly. The numbers given include all who work, whether members of the society or not. Only about 1,400 of the men are members.

Spring-knife cutlery includes some kinds of instruments without springs, *e.g.* desk-knives and some surgical and other cutting instruments. The word is now confined to the mere putting the parts together. Formerly it included also the blade-forging, grinding, and the inside scale and spring-forging.

Spring-knife cutlers work by the piece and therefore only as long as they please, but they generally work long hours, viz., on the average about from 7 a.m. till 8 p.m. One of the leading factories is, I believe, never open longer than this, but most are open from 6 a.m. till 8 p.m., cutlers being allowed two hours longer than the grinders in wheels, if they like to work so long, as their wages are so low. The hours of the boys will depend on the hours of the men under whom they work, and in the factories they are in nearly all cases employed by the men. I have known leading factories open till 10 p.m. at pressing times, and several large factories do not profess to close till 9 p.m. on Thursdays and Fridays. In Bull week people work very long indeed, some from 4 a.m. till 10 p.m., or something like that. After that they scarcely do any work for a bit, only just coming into the shop and out again. It would be a great blessing to Sheffield if Bull week could be done away with; I see nothing in it but folly.

There is supposed to be an hour for dinner and half an hour for tea, but I am sorry to say that often these times are not taken; I have seen many eating and working.

We are trying to work a rule that a man shall not have a second boy till his first is 19, so that he can look to each boy and teach him his trade properly. Some have three or four or even four or five boys, and these are generally the men who work the boys longest, *e.g.* from 5 or 6 a.m. till 9 or 10 p.m., and treat them worst. This is most the case where the work is of an inferior kind, and the most labour must be put into it to make a living. As a general rule, though not always, the inferior work is made in small places.

A boy is bound apprentice as soon as he is taken by a man to work, and though he is only 9 or 10 years old he is bound till 21. Plenty are bound from 10 years old till 21. The master usually takes him into his house, boards and clothes him, and perhaps gives him 1*s.* 6*d.* a week and then perhaps 3*s.* or 3*s.* 6*d.* till he is 14 or 15, and afterwards more. A boy sometimes pays a premium of 10*l.* or so, but very rarely.

Cases not unfrequently occur where apprentices have to leave their masters for improper treatment. This is usually where the master has too many boys and is doing the lowest paid kind of work.

In the new and larger factories the shops are larger and more healthful and cleaner than in the old fashioned places. In almost every large factory there is some machinery. The shafts run sometimes over head, sometimes below the bench, and there are straps and bands, &c. The youngest boys are often put to glazers and buffs, especially if the work is of inferior class, because it is easy. Unless care is taken in throwing on and off the bands it is dangerous. I had an apprentice of my own break his arm because he would be throwing the bands on, and he was 11 weeks down with it. I had often cautioned him about it, but he had done it hundreds of times, and was 16 years old. It was his place to do it. It may be necessary to throw it on and off three or four times in an hour to change the tools.

Fans are used by a few cutlers, but only by a few. It would be a great improvement if they were generally used. I have seen a man clear the shop out by the dust which he made when he had power on to finish bone. In some branches of work, *e.g.* as at bone and pearl scales and finishing, the dust is, I think, injurious. I have seen men cover their mouth and nose over, and their eyes running while at such work. The pearl dust lies more on the stomach, but there is twice the amount of bone dust made as the waste is of less consequence. The dust is sometimes almost as bad as in racing a stone, and the places want good ventilation. Except for the dust there is nothing injurious in any part of cutlery. The work is tedious but not heavy.

The boys generally are not too well educated or persevered with enough. A good few men do attend to their apprentices, but when a man has a number of boys he is generally of that avaricious turn that he cannot spare them to go to school, as parts of his work can go on after the engine has stopped.

I know the factory rules, and I believe that some like them here would be beneficial to the children and not any worse for the parents, or rather would be good for them too after the system was in practice. If children were better educated, when they grow up they would learn to take better care of their own children. As regards the general character and moral habits, I think that there has not been much change within the last 20 years, but that what little there has has been for the better.

204. *Charles Allen*, scale cutter at Wells's wheel. —Henry Bolland, aged 11, worked for me, cutting scales at a steam circular saw and going errands. He was putting the band on and did not notice that it was loose on the shaft, and it took him up to the ceiling and turned him round flat along the shaft. The pressure of his body between the shaft and the ceiling stopped the machinery, and the band above nearly broke. His arm was broken in two places, and they took it off at the Infirmary between the

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shoulder and elbow. It is a wonderful cure, and he was well enough to look in here to-day, though the accident happened only three weeks ago.

In using a circular saw it is very useful to have a "cutting off stick," or bit of wood, which saves much danger. This one I made myself, and never saw any just like it for safety. If it is used properly a boy cannot hurt himself. If they do not have something of this sort they slit their fingers.

MESSRS. JOS. RODGERS AND SONS', CUTLERY MANUFACTURERS, NORFOLK STREET.

205. This is well known as a cutlery manufactory of high standing. The character of the buildings and the internal arrangements correspond. A shop in which dusty work is done, viz., cutting ivory with circular saws, is very lofty, and the large sash windows were open at the top; it would be well if such rooms were more common than they are, where dusty work is done. The proportion of boys in the wheel is very small. In one hull out of 21 persons only three were under 18, viz., two of 16 and one of 17.

206. *Mr. Newbold*, one of the firm.—Cutlery in its strict sense is the making up of knives, table spring and other kinds, razors, scissors, and surgical instruments. The number of large cutlery manufactories, *e.g.* employing 100 persons or so on the premises, is quite small, but there are a large number of smaller places with from 10 to 30 or 40, and a great deal of work is done by out-workers at their homes or in small shops in the town and the neighbouring villages. The forging, grinding, and hafting or fitting with handles, are three entirely distinct branches of employment, though all are carried on upon our premises here.

We use much less dry grinding than formerly, but for some parts of the work, as razor grinding, it is necessary. The stone is keener dry, and answers better where much steel is to be cut away. The blade too must be constantly watched, and if the stone were wet this could not be done without stopping each time to clean the dirt off the metal. The fan has very much diminished the bad effects of this work, but often the men do not use it. It is in one part of the hull, and communicates with the separate troughs by bands. Sometimes, however, from mere neglect, a man will work without using it, and when asked why he does so will say, "Oh, I did not know the "band was off." It is effective when it is used. About 20 years ago we had scarcely any grinders at work over 45 years of age, but now some of the best are 60 or more. I think, however, that grinders had to give up work not only from having the grinders' asthma but also from the injury to their eyesight by the strain of constantly watching the work. This cause must remain the same, but there is also a great improvement in the habits of the men. They are much less dissipated now than formerly. Regulations as to the hours of work of the young would make no difference to us.

207. *Henry Matthewman*, age 17, cutler.—Can tell the letters but not read. Was at day school from as long as I can remember, till 12 years old, when I came here. Missed going sometimes, but have gone several days or a month, and never miss. Have been to a Sunday school once or twice since, not more. Have been to chapel, but have missed a good many times lately. One name that they preached about was Jesus Christ, but I cannot say any others, and I cannot tell anything about Him. He was not killed, but died like other people. He was not the same as other people in some ways, because He was religious in some ways and others isn't. He was alive again, but I cannot say if He is now. He was on a cross, but that is not how He was killed.

[A boy of 14, William Brunner, also questioned, could scarcely spell.]

208. *Henry Barkwell*, age 12.—Cut ivory with a circular saw. Am apprenticed till I am 21, and get 4*s.* a week for mother and 6*d.* to spend. Come to work at 8 and give over at dusk. We haven't gas. Go home from 1 till 2 for dinner.

Came here from school. Can read and write, but not so very well.

[This boy, who is young for such a dangerous work, was allowed to come out of consideration for his circumstances.]

209. *James Roberts*, age 14.—Polish penknives. Work from 8 till 6, never longer. My brother and I work here with father. Can write a little bit, but not a deal. (Reads "little red breast" as "robin;" a picture of a robin was over the words.) Go to a chapel.

210. *John Mason*, age 16.—Make up penknives. Have been at it three years. In this shop there are only two youths besides me. Come at from 7 to 7½ a.m. and leave at from 7 to 7½ p.m.; sometimes stay till 8. Have 10 days holiday at Christmas; two at Whitsuntide and Easter. Could write once. There are 9 elevens in 121—are 10—are 12.

211. *William Richards*, age 12.—Heat for father at a forge. Here a year.

At school before, and could read and write, and got to rule of three. (The father says, "No, only a few "of the earlier rules"). There are 104 pence in 9*s.* Reckoned by "100 pence is 8*s.* 4*d.*"

[Works in front of the forge in a strong draught from the window, which was shut for me.]

212. *Mark Rutter*, blade forger at Rodgers' wheel.—Have a lad to work for me as "heater." He blows the bellows, and holds the metal in the forge to heat it, and hands it too me. This is the way in which boys are employed by forgers. Take them at about 10 years, though I once had one of 8, but I found that he could not manage it, as it takes some care, and so I gave him up. Do not think that they can manage it before 9. We learn them to use the hammer a bit, and then some become apprentices, but they do not get to the hammer till 13 or so. We are not very early comers in our trade, and do not come till 7 or 8 a.m.; but the boys have no regular hours, but depend entirely upon their masters, who are all piecemen, and work according to what they have to do. Some go on very late, till 8 or 9 p.m., but here we are earlier. In the fore end of the week the men work easy and stop a little to keep Saint Monday and work hard in the latter. The boys' meals also depend upon the men. Towards the latter end of the week some do not get more than 10 minutes or so for dinner, and many usually not more than half an hour. Of the lads that I have had I should think that not half can read, though I do not ask so particularly about it.

213. *William Dickinson*, age 15.—Heater to last witness. Began as heater here at 9 years old. Never go the Sunday school.

MESSRS. G. WOSTENHOLME AND SON'S, CUTLERY MANUFACTURERS, WELLINGTON STREET.

214. *Mr. Gorge Beeley*, manager.—This is one of the largest cutlery manufactories in the town. From 300 to 400 persons, including those in the wheel, are employed in it. Machinery is used all through the place. The wheel runs from 7 till 7, and in the rest of the factory work is from 8 till 7½, and on Saturday till 3.

On that day there is no dinner time, on other days there is an hour and a quarter, and half an hour for tea. Occasionally some may work in meal times, but as a rule these are taken fully. Overtime happens chiefly in the warehouse where females are employed in rubbing, wrapping up, &c., it is sometimes till 9½ p.m. there. It is also made sometimes in other parts of the factory, chiefly on Friday, *e.g.* till 8½ or 9 p.m., and in a very busy time I have known it 10. Overtime is paid for at a double rate.

MESSRS. HARRISON BROS. AND HOWSON'S, CUTLERY MANUFACTURERS, NORFOLK STREET.

215. *Mr. William Harrison.*—We are general cutlery manufacturers. Much of our work, probably half, is done off our premises by outworkers in small places. Most large cutlery manufacturers, I should say, have part of their work done out in this way.

The only females in our employment are perhaps 20, who are engaged in the warehouse in rubbing and wrapping goods. None are younger than 16 or 17. There hours are from 9 till 7½ with an hour and a half for dinner. We give them tea here, as we find it cheaper than letting them go away for their own. The boys, except an errand boy or two, are all engaged by the men and work as helpers to them. There may be 60 or 70 of them, and the youngest perhaps 12 years old. The engine runs only 12 hours a day, or only so slightly and so rarely longer as not to be worth speaking of. Only parts, however, of a cutler's work depends upon the use of power, and the forgers not at all, so that the men can work longer if they please. The works are open now at 7 a.m., and in summer at 6 a.m.; and they are generally closed by 9 p.m., sometimes perhaps later. It depends upon the man who has the care of the place. The men, however, work only just as they please, and sometimes some do not come in till 11 a.m. That is why cutlers do not like working in America, because there they have to be in the factory each day regularly. The boys' work depends upon the men, but I think that as a fact they always get enough time for meals, including an hour for dinner. In respectable cutlery establishments it is not, I should say, common for men to work long hours. This happens, if anywhere, in the small shops and out places where the cheap class of goods are made, *e.g.*, common pocket knives like this, which we buy from the small makers instead of making them ourselves.

We have all our grinding done off our premises; the men are perhaps in a dozen different wheels. Wheels are often built as a commercial speculation and let out to individual grinders. Even when a manufacturer has a wheel of his own, he generally lets parts of it off in the same way.

The cutlery trade is almost entirely confined to Sheffield, with the exception of a little table-knife making in London. Steam allows of more work being produced now than 20 years ago, but I do not know that more persons are employed in the trade.

MESSRS. J. WILKINSON AND SON'S, CUTLERY MANUFACTURERS, CHURCH STREET.

216. *Mr. Wilkinson.*—There are four main branches of the cutlery trade, viz., table knives, razors, pen and pocket knives, and scissors. Formerly these were often carried on separately, but now it is more usual for a manufacturer to carry on two or more together. The whole cutlery trade has much increased of late years. More work is done in factories than formerly, in proportion to the work done out. Many little makers or journeymen cutlers, though working independently and on their own account now work in factories, and the manufacturer buys the goods from them just as he does from those who work outside. These small makers can get cheaper labour than a manufacturer can, and sell him goods of a common kind cheaper than he could make them, *e.g.* we can buy common scissors from them 20 per cent. cheaper than we could make them ourselves.

But little machinery is used in cutlery proper, *i.e.* excluding the grinding. Machinery for the forging was invented some time ago and failed, and though it has been taken up again lately, the forging is likely still to remain hand work.

Wheels are often built as a speculation by shares, and the work goes on without any practical head or manager. The engine man is usually the only person on the spot who has any charge of the place.

Our works are open from 8 till 8, but the men work only by the piece, and are not tied to the time. I think that now we have no boys here; the youngest I believe is 20. There are a few women in the warehouse engaged in dressing with a file, burnishing, &c. Their hours are from 9 till 6. Saturday is becoming a shorter day, and the bulk of wages in the town are, I should say, now paid by 2 p.m. on that day.

The working men generally are much more regular in their work and more provident than formerly, and there is not nearly the same amount of drunkenness. I attribute this to the improvement of education, and to the working people following the example of the classes above them.

217. I visited a bone crushing and bone button making factory. In the former only men are employed; a boy or two wheeling coal. The buttons are turned, drilled, &c. by a small number of women and girls at lathes worked by steam. The button trade, however, at Sheffield, as I am informed, has become very small in amount.

MESSRS. WM. HUTTON AND SON'S, ELECTRO-PLATE MANUFACTURERS, HIGH STREET.

218. Several young boys are engaged in the rolling mill and stamping shop, in which the metal is shaped. Their work is just of the kind as some described at Birmingham. Passing the blanks of forks and spoons through the rollers looked dangerous work for young boys, and was remarked on to me as such by the proprietor. "Little Johnny lost his finger," said a young boy who had lately begun rolling. The fingers come almost in contact with the roller, though gauges are put which, if care be used, prevent the finger going too far, and the roller can be stopped. The premises are much cramped owing to their position in the very centre of the town; and it is in consequence found impossible to provide washing rooms. These would be very desirable in work of so dirty a nature as the buffing, in which females are engaged, unavoidably is. The shafts have been fenced in consequence of a fatal accident.

219. *Mr. Hutton.*—We carry on both branches of the electro-plate trade, viz., the spoon and fork branch, and the general or more ornamental branch We do not perform the actual process of electro-plating ourselves, as that is more conveniently and better done on a large scale elsewhere, nor have we

Metal Manufactures.

Sheffield District.

Electro-plate.

Mr. J. E. White.

a.

any casting. There are about 50 boys and girls under the age of 18 on the works, but they and the women are all employed by the men, who can keep them better to their work. The details of the business are so many that it would be impossible for us to attend to all; and part of the work, viz., buffing, is so dirty that only females of not a very superior class like to come to it, so that we would as soon not have the direct responsibility of them, and we do not inquire too much about them. I believe, however, that the boys and others are perfectly well treated and paid. The females get from 3*s.* up to 12*s.* and 14*s.* a week, according to age, and the boys begin at about 3*s.* and rise usually 1*s.* each year.

Wherever there is machinery there are sure to be accidents at times if there is any carelessness. We have done what we can to make our's safe. There are two principles. One is to have the shafts overhead and the bands coming down from it, but our shops are not high enough for this. So we follow the other, *i.e.*, box off the shafts which are low down. We were required by the coroner to do this in consequence of a fatal accident. Another female had been caught in the same way, but, though this caused much alarm at first and it was thought that she was dead, it was found not to be serious. The boys get their fingers in the rollers, though we do what we can to make them safe. About 15 boys, from 10 years of age upwards, work in the rolling mill and stamping shop. In other factories where the same kind of business is carried on, young boys are probably employed in the same way.

We find much inconvenience owing to our central position from the want of ground space. We tried to put up a washing room, but two would have been wanted, and we found that we could not spare the space. There are water taps about the place. There are separate privies, which is of importance. Some of the boys help in dipping things in acids, viz., *aqua fortis*.

There are several females in the warehouse, some engaged in wrapping up things, but most in polishing with the hand and rouge. Numbers of females are engaged in warehouses in Sheffield in like manner. In cutlery warehouses part of their work consists of whetting the blades on hones.

Our hours are from 8 till 7, and overtime seldom happens, and never later than 9, or if it ever is, the children are not kept. The trade is in itself pretty steady, and our own business is long established, so that we can keep to pretty regular hours.

Any moderate regulation of the hours of work would make so little difference to us that we should not mind it at all. I have no doubt that some arrangement for children working only half time could be made if it were necessary. The men would have to see to that and find more children.

I am well acquainted with Birmingham and its manufactures, having come here from there. There are not nearly so many workers in small outshops here as there. Here they are more in factories. The effect is that the workers here are much more independent and better off. There is not near so much competition from small makers of inferior or worthless goods, and a larger manufacturer can afford to hold out better than the small makers, who from their necessities must sell at any price. What correspond most closely here to the Birmingham outshop workers are the makers of small and cheap cutlery, such as pocket knives, and these are some of the most poorly off classes in this town.

220. *Robert Furness*, age 10.—Cob up forks and spoons for that boy (aged 13), who puts them through the rollers. Work from 8 till 7, and have an hour for dinner.

Was at crinoline steel rolling mills before, but only worked there a week, because mother said it was so greasy and too far off. The proper hours were from 6 a.m. till 6 p.m., but all the week that I was there we had to work till 9 and 12 at night to make overtime. It was till 12 three nights. It was at the time of the flood (more than half a year ago). Cannot read or tell the letters.

221. *Herbert Shaw*, age 13.—Cob up for a stamper, and sometimes pull a stamp. Same hours as the last boy.

Went to a brush making place at 9 years old, and worked from 7 a.m. till 7 p.m., but made no overtime. It was not machine work. There were about 13 boys. Was not the youngest. There was one only going in 7.

Did go to Sunday school, but do not now because I have no clothes. The man gives me 3*s.* 6*d.* a week; father is an optician and has a bit of work at home; and I have a brother at work here. Went to St. Mary's day school when I was a little boy. Go to church at night and hear them read about God.

MESSRS. HENRY WILKINSON AND CO.'S, ELECTRO-PLATE MANUFACTURERS, NORFOLK STREET.

222. The work and work-place are much like others of the same class described at Birmingham. There are separate closets and washing places. In a casting shop a boy was shovelling sand and helping the men, much as in brass and other casting shops. The shafting runs along the top of the workshops.

223. *Mr. Henry Wilkinson.*—Our establishment, though there are others larger, probably gives a fair specimen of the whole manufacture as carried on in Sheffield. We do the plating ourselves, as we find it more satisfactory. We have casting shops; and we also make plated cutlery. There are establishments which plate largely for the rest of the trade.

We reckon our week to be 59 hours. In winter we pay at 5 p.m. on Saturday, and in summer at 2, so as to let the workers get away a bit earlier. We seldom if ever want much more than these hours. The people themselves like as a favour to work longer for three weeks or so before Christmas.

Our people have several holidays, and at each we give them 1*s.* a-piece to spend, or, if they like, they may work and get paid. These are, four days at Christmas, besides Christmas Day, New Year's Day, at Easter and Whitsuntide two days each, and half days on Shrove Tuesday, the 5th of November, and each of the two Sheffield fairs. These holidays are, I think, common in the town.

We should have no objection to a regulation of the work hours of young people if it left our week not shorter than it is. It might be more convenient to the manufacturer to lay down a rule that there should not be more than seven days' work made in a week and that only in a certain number of weeks in a year, than to limit each day's work. But no reasonable person, I should think, would object to a slight inconvenience if it were necessary for the protection of young people and were for their good. We should be glad to bear our share. We tried to have a bit of a school but found that we could not keep it up.

224. *Ruth Hobson*, age 14.—I smooth the metal with sand at a steam lathe. Was at a crinoline steel manufactory before. There our hours were from 6 to 6 and in winter from 7 till 7. Have made overtime till 9 for a week together, but not often. That was only in winter; in summer they were very slack.

Do not know all the letters; not that—B, nor A; "u" is "n"; know "t." Go to Sunday school.

225. *Peter Palue*, age 12.—Cannot spell. Was never at school; grandfather wouldn't let me go when I was 6 years old. Don't go on Sundays. Go to a chapel sometimes at night, but don't know anything that I hear about; I go to be still and listen.

MESSRS. JAS. DIXON AND SON'S, PLATE AND WHITE METAL, &c., MANUFACTURERS, CORNISH STREET.

Metal Manufactures. — Sheffield District. — Electro-plate. — Mr. J.E.White. — a.

226. Most of the work here is of the same kind as that described in electro-plate manufactories in Birmingham; but the original mode of silver plating, said to have been invented in Sheffield, of uniting the silver to the basis by heat and pressure, is also in use. This process consists in fastening a plate of silver on an ingot of the inferior metal, heating, and rolling it out to the required thickness. A great quantity of goods also are made of white or Britannia metal, a compound metal consisting chiefly of tin. In addition to these goods a great variety of powder flasks, shot pouches, drinking flasks, and miscellaneous gun implements are worked up with metal, leather, and glass. The greater part of the workpeople are men, who cast, roll, cut out, shape, and ornament the material. Many of these operations require a highly skilled kind of labour. A considerable number of females, of whom, however, but few are under 18, and very few under 13, finish the surface by buffing, burnishing, polishing, &c., some by means of machinery, but the greater number with the hand alone, called rubbing. A few are engaged in sewing leather for flasks, &c.; a few boys are employed in like ways, or as apprentices in learning other parts of the trade, filing, &c.

227. The greater part of the buildings are new and roomy, with large open space in the middle, and provided with closets and washing places. Some parts of the work are dusty and dirty, and there is a strong smell of the oil used, but the females engaged in these keep a working dress.

228. *Messrs. Dixon.*—We do not like children under about 13, as up to that time they ought to be at school, and the younger boys are so mischievous, besides the loss which they occasion by spoiling work in learning. We continually have to send children back when they come to apply for work, and tell their parents that they had much better take them to school. A few do, however, get taken in younger, but it is only through the parents' wish, not ours. Where there are numbers of the working class of children without the opportunities of education it is important that measures should be taken to secure it to them, but there is no occasion for such measures in this district, as so few children are employed in it. We employ about 600 or 700 people here of whom from 300 to 400 are men, and the rest women with a few girls and boys.

Our hours of work are not the same for each day but are fixed by weekly tables which vary at different times according to the amount of work which is wanted. They are longer on some days and shorter on others. The longest tables are arranged as follows:—Monday and Tuesday, from 7 a.m. till 8 p.m., Wednesday and Thursday from 6 a.m. till 8 p.m., Friday from 7 a.m. till 5 p.m., Saturday from 7 a.m. till noon. These hours are never exceeded though usually they are shorter. There is always an hour for dinner. We know very well what is the amount which people can stand, and if they work longer they knock up. So we have to judge for them what they can do. They have full time for their meals, and this is necessary. At one time we found that some of the women and girls were in the habit of working in their meal times, and the result was that several took to fainting, which seems very catching. We accordingly took measures which put an effectual stop to this. A few who live at a distance may perhaps stop to dinner, but they all take ample time.

There are several holidays:—10 days at Christmas, other days at Easter, when we are generally cleaning up, and at occasional times when repairs are going on, besides gala days and half days at the two fairs and at Whitsuntide. On Saturday the hands generally leave at 12, except before Christmas, when we are always very busy, but the railways will not take goods after 2 p.m. on Saturday.

229. *Sarah Jane Egg*, age 15.—Rubber: am an apprentice. Work about from 8 till 8. Go home an hour for dinner at 12 and have tea at 5.

Can write a little, did division once or twice. Was never at a night school; go on Sunday most times.

230. *Emily Lee*, age 14.—Rubber; apprentice to a woman.

Was at day-school till here. Can tell the letters, but not put them together.

231. *Edwin White*, age 11.—Rub, and carry pots. Come at 7 and 8, and work till 8. Breakfast before I come. Worked at another place before; hours there were from 7 till 7.

Can read a very little.

232. *William Watkin*, age 11.—Buff spoons on a brush at a steam lathe. Am apprentice. Can read and write.

233. *Martha Ann Segwell*, age 12 years, 11 months.—Here three years to-day. Do not ever come earlier or leave later than the regular time. Wash my hands before I go to dinner, and put off my working dress.

Am not an over good writer, but can read.

MESSRS. MARTIN, HALL, AND CO.'S, ELECTRO-PLATE MANUFACTURERS, BROAD STREET.

234. The workshops and whole premises have a clean and cheerful look, far more so than is to be found in several places. The workers generally looked very tidy. I was told that "any girls who "like can wash and change and go home quite clean," no men being allowed in their rooms. There are several ventilating shafts reaching above the roof and down to the lower floors. They are said to be very useful at night when the rooms get hot; but in one low room where several women and girls work, and which had a close smell in the morning, the ventilator, which has a double shaft, was shut, as it was said that it would make it too cold. A boy of 9 goes errands; other boys file, &c.

235. The shafts and bands are safely fenced where females work, but only partially where men and boys work. Boys, however, wear aprons; and it would be safer if all the shafts were guarded alike.

236. *George Henry Harley*, age 13.—Polish with rouge at a steam lathe. Work from 7 a.m. till 8 p.m., with two hours for meals. Have not made overtime since I have been here, viz., eight months. Keep this dress here for working in. There is a place where I can wash my hands.

Was at file cutting before. It was only a little place in a yard, and there were five boys. We worked from 7 a.m. till 8 p.m., but never longer. We had no breakfast time, but only an hour to us dinner and half to us tea. Often worked in the dinner hour; don't very often do so here. The engine stops, but sometimes I carry lime in dinner time or such as that. They only gave me 3*s.* 6*d.* a-week at files, but I get 5*s.* here. Went to cutling as errand boy first.

Can read and write, but not do sums. Go to Sunday school sometimes, not to a night school ever.

237. *Elizabeth Hay*, age 17.—Polish plate with my hand. Come at 7 a.m., and leave at 7½ p.m. Some of them stay later sometimes to finish, viz., till 9½ or 10 p.m.; but I have never stayed later than 9. Went to this sort of work first when 13.

Metal Manufactures.

Sheffield District.

Brass foundry.

Mr. J.E.White.

a.

MESSRS. B. VICKERS AND CO.'S, BRASS FOUNDERS, SAVILLE STREET EAST.

238. This is almost the only brass foundry of any size in Sheffield, though there is one of considerable size at Masborough, which I visited. The manufacture is generally spoken of here as "a Birmingham trade." A certain amount, however, of brass work is, I am informed, carried on as part of other Sheffield manufactures; *e.g.*, those of grates, fenders, fire-irons, &c. The buildings of this manufactory are very large and airy. The brass work is principally chandeliers. There is also a department of tin work, viz., the making large tin meters. There are four casting shops, with two boys on the average in each shop.

239. *Mr. F. Sibray*, manager.—These are the largest brass works in the town, as large probably as the three or four others put together, though at the present time not more than about 120 persons are employed here. There may be a few small places besides where two or three, or half a dozen people work. The women and girls here are lacquerers. The boys in the casting shops and most of the others are employed by the men. For the last year the hands have had a half-day on Saturday, working 10½ hours instead of 10 on other days, to make it up. The half-day is becoming very general in the town. The regular hours here are from 6 to 6, with an hour and a half for meals; they are scarcely ever exceeded. If more work were needed more hands would be put on.

240. *Joseph Hutchinson*, age 10.—Have been here getting on for a year. Work in a casting shop getting sand, flouring moulds, &c., and sometimes skim the metal when the caster pours, and help him mix the copper and spelter. Come at 6 a.m. and leave sometimes at 6 p.m., sometimes at 10, 9, or 8; last night it was 10½. Have not left one night at 6 in the month that I have been under the man for whom I now work, but most nights at 7 or 8. Have my breakfast and dinner in the shop. When I first came worked for 1*s.* 6*d.* a-week. Have a cough; am not poorly; it only hurts me when I cough. The sulphur gets into me when I help the man to mix the spelter.

Never was at any school. Can read my A, B, C; learned it off my little brother's book; I buyed a half-penny one and mother showed me. Have no clothes to go to Sunday school in. Get 3*s.* a-week now. Father is a horse clipper, and has plenty of work when he has a mind to it. Don't ever go to church or chapel.

[Very ragged.]

241. *Charles Gandley*, age 11.—In burnishing shop. Use black lead, and dip the metal in acky fortis and phizz. The acky burns my hands and clothes. Brush it off with lees. The only place where I could get water is at a boiler like in the shop.

Can read, but not much, and cannot write. Was at school till I came here, and go on Sunday.

[Ragged.]

242. *John Henry Drabble*, age 12.—Am filing meters (made of lead and block tin.—J.E.W.) by rubbing them on a flat file. Have been here nearly two years. Go home half an hour to breakfast and an hour for dinner. Sometimes wash when I go out. There is a washing place in the lacquerers' place, where the lacquerers washes 'em.

Cannot read much, and cannot write or sum.

[His hand is covered with the lead and tin dust.]

243. *Annie Swallow*, age 13, lacquerer.—Sometimes go to school on Sundays. Cannot read or write, but spell a little.

MESSRS. GUEST AND CHRIMES', IRON AND BRASS FOUNDERS, ROTHERHAM.

244. These large works, like two of the other largest metal works at Rotherham, are built on a plan well suited to the health and comfort of the workers, and apparently to the good management of the business. They contrast very favourably with many of the Birmingham brass foundries, the advantage being attributable no doubt to the greater facility of obtaining space. Most of the workshops are in a very long range of buildings, admitting light and air from each side, and reached by convenient iron staircases from the outside. The different workshops are thus easily separated by locked doors. The large casting shops are open to the roof, and well ventilated; but on entering one just after the operation of pouring had been performed, and not having been in brass-casting shops for a long time past, I found the atmosphere very unpleasant to the throat. There are 26 brass-casting furnaces in four shops, besides an iron foundry.

245. The lacquering room, in which a few females are engaged, is well arranged, being open to the roof, and each lacquering stove having over it a pipe with a mouth equal in size to the surface of the stove for carrying off the heat. A young woman here, who had worked in a lacquering shop at Birmingham, where I did not notice such pipes in use, spoke of their benefit in carrying away the heat. The work generally is much of the same kind as in Birmingham brass foundries, much of it consisting of filing.

246. The greatest variation in the hours of work was stated to be in the casting shops, work of every kind having of course to come from them. Owing to the unhealthy fumes, however, it is the branch of brass work in which long hours are least desirable for young boys. One caster for whom boys appear to work longest was stated to be one of the least regular men as to work. When sent for to explain why he kept them so late, he stated that he could not do without them.

247. *Mr. Guest.*—We employ between 300 and 400 persons here; of these about 100 are under the age of 18; but we object to taking any children under the age of 13, though we allow a few, who are sons of some of our men, to come younger, but not under 11. We have no females except a few lacquerers.

Our day is from 6 a.m. till 6 p.m., with an hour and a half for meals. On Saturday all leave at 1 p.m. We were the first in this neighbourhood to introduce the short day on Saturday, about 18 years ago. The time so given is, I believe, as a rule, spent rationally and well, *e.g.*, by many men in their gardens. The amount of work done in the week, instead of being diminished by the loss of time is, I believe, increased by the rest which is given; at any rate the best proof of the half-holiday answering is, that nearly all the other large works in the town have adopted it.

We should have no objection to a law limiting the work of children and young persons to our present hours. If more work were needed in a given time, we should simply increase the number of our hands. Our premises are large and roomy, and would easily admit of our doing so.

The question of confining children to half-time scarcely concerns us practically. For so small a number it might not be worth while for us to make arrangements for half-time at all. But we should not look at this merely as it affects ourselves. We consider that, as employers, we have duties as well

as interests, and what the children ought to have we should wish to give them. We should be glad to do anything for their good.

We insist on the hands coming punctually to work, and on Monday just as much as on other days; and we also require sobriety and steadiness. We find that when a good system is once started, it works easily and well. Our men are a sober intelligent set, and such as take a lead in clubs, &c. In 20 years we have scarcely had a case of a man of ours being taken up for drunkenness.

It is possible, however, that other employers in our branch of business might feel difficulties which we should not from any legislative restrictions on labour. While we employ only a dozen or fifteen children, other manufacturers, making just the same description of work, would probably employ a much larger proportion, perhaps four times the number. A want of room or other causes might be an obstacle to putting on extra hands when needed.

Though we occasionally make overtime we have never real night work, and I should be very unwilling to have it. Where it prevails, as in some manufactures it does, and no doubt necessarily, its moral effect on the boys engaged in it is very disastrous. In any work in which young children can be employed, the wages which they can earn, however small, are sufficient to make too many parents take them from school much too soon.

We entirely concur in the important object sought by this inquiry, and will gladly render our utmost aid, now and hereafter, towards its accomplishment.

248. *Thomas Gaynon*, age 10.—Work in a brass casting shop. Hours are from 6 till 6, but when I make overtime I stay sometimes till 9. Have made overtime nearly all this week till to-day (Saturday), and made a day over. The week before last I made 73 hours, being 13½ hours overtime. One of the nights I stayed till 9½, another till 9, another till 8½ p.m. Have stayed till 10 p.m. getting sand for master, &c. Have an hour for dinner at 12, but sometimes wait till 12½ for it, and then begin work again half an hour later. Sometimes take dinner in this shop; did yesterday.

Was at a day school six months, and go to a ragged school on Sunday. Can read a little.

[A boy of about 12 years old, Henry Houghton, made 72 hours in a casting shop in the same week, working two nights till 9 p.m. and three nights till 8. The facts appeared by reference to the time book.]

249. *James Brooks*, age 12.—In another brass-casting shop. Make overtime most weeks. Seldom later than till 7 or 8 p.m. Sometimes we go home to dinner, sometimes bring it in here. Don't wash before dinner, but wash me at night. Mother says the work don't suit my health very well; have headaches. Have been here nine months.

Can read, and go to Sunday school.

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250. *Joseph Simmenhite*, age 15.—Work at a lathe. Have often worked overtime till 8, but not later. The others in this shop have made overtime till 9 for a long while; I cannot say just how long. There has been overtime, more or less, for the last four or five months.

251. *Edward Woodfield*, age 13.—File brass taps. Stay till 8 when I work overtime. Get 3*s.* a week. Left school at 11 years old for work.

[The taps are said to contain but little lead. (Birmingham evidence, B. Nos. 22, 737). The father, a Birmingham man, gets 2*l.* 2*s.* a week in these works, as well as having another son here, and has been remonstrated with in vain for not keeping his boys at school.]

252. *John Connigan*, age 8.—At filing. Have lately come. Am bound to make overtime next week; mother said so.

Cannot read. Have been to the Catholic chapel. They tell us about good men, but I cannot tell the name of any. Don't know what Moses is, or if he was a man. Don't know nowt about Jesus Christ, or if He was killed or crucified, or if crucified means put to death. They never told us about the Gospel. Can hear what they say at the chapel.

[Looks more than 8. The man under whom he works was remonstrated with for engaging so young a boy.]

253. *William Snow*, adult.—Dip the metal; always do it myself. Boys' constitutions could not stand it. Feel it in my chest, and have a cough. If it is a heavy day, and the air damp, as it was yesterday after I had been in the dipping shop two hours, you could hardly bear it. We wear these green baize aprons to keep the acid from burning us. Wear cloth trowsers too. If it was doeskin it would burn like shot holes in it. The best thing for us to take for our health is plenty of milk. The black leading, which two lads under me are doing, is unhealthy from the dust which flies up. At that work you spit up quite black.

MR. J. GREAVES', CUT NAIL MANUFACTURER, BROAD STREET.

254. The cut nail manufacture carried on here differs from that described in the Birmingham district, inasmuch as steam power is used only for cutting the large strips of iron, while the nails themselves are cut from these by hand presses or flies worked by females, instead of by machines worked by power and only fed by workers. They are headed, &c. by machines worked by treadle. The workshops are small and dirty; but this kind of manufacture is probably of no great importance, as it is only in a limited kind of work, viz., very small nails, that the hand can compete with power. Cut nails.

255. *Mr. Thomas Stansbury*, manager.—The manufacture of cut nails by hand machines is almost superseded by the use of power. Birmingham, Wolverhampton, and Leeds are the great seats of the manufacture. The only other manufactories of cut nails in Sheffield are on quite a small scale.

Wrought nails are made in Rotherham and its neighbourhood, and to a considerable extent in the neighbourhood of Belper for several miles round. A nailer works, usually with his family, in a small shop at the back of his house. There are usually four persons working to a fire, and I never saw more than six in one shop. (*He here describes the system just as it is already described in the Birmingham district*). They work just as they please. The men often drink three days, and work late the rest of the week to make up. They can work better when all work together, so that the work is likely to depend on the head of the shop or family. These and the Dudley and Bromsgrove neighbourhoods are the only wrought nail districts that I know of. Of course in any large town there may be one or two wrought nail makers working for farmers, &c. Screw making is not a Sheffield trade worth speaking of. We get screws from Birmingham.

[Wrought nails are made also in the neighbourhood of Wakefield.]

MESSRS. S. FOX & CO.'S, STEEL, UMBRELLA IRON, AND WIRE MANUFACTURERS, DEEPCAR.

256. These large works, employing very nearly 800 persons, have sprung up in a retired valley about eight miles north-west from Sheffield. About 170 girls and 100 boys, from 8 years old up to 18, and 100 women are employed. Most of the girls' work is of a light kind, consisting chiefly of hand press Umbrella irons, &c.

Metal Manufactures. Sheffield District. Umbrella irons, &c. Mr. J. E. White. a.

or fly work, of the same kind as much described at Birmingham. Indeed, the umbrella manufacture is spoken of as quite a "Birmingham" trade. There is in general ample space, but one of the rooms in which a number of young girls work is low, and with insufficient means of admitting air at the windows. It felt hot and close.

257. In one shop a number of girls were engaged in what is strictly glass work. They tip the umbrella ribs with a glassy substance to imitate ivory, by heating the iron red hot in gas jets blown by steam power, and applying a composition.

258. Other kinds of work are carried on upon the premises; *e.g.*, rolling cold steel, hot bars, &c., as in ordinary rolling mills, wire drawing, &c. Some of the rooms smell disagreeably from the vitriol used for the steel. The rollers at which boys work are protected by screens.

259. The stated hours are from 6 a.m. to 6 p.m., and in winter from 7 a.m. to 7 p.m., with the usual factory meal times; overtime is made for about two months in the year, in summer till 8 p.m. and in winter till 9 p.m., with half an hour for tea, but very few of the younger hands ever work overtime. The employers state that they consider the object of this inquiry very important.

BARNSLEY.

260. The collieries and the linen manufacture leave but little room in Barnsley for other manufacturing employments on any large scale.

MESSRS. PIGOTT AND FARRAR'S, IRON FOUNDRY, BARNSLEY.

Iron foundry.

261. *Mr. J. T. Pigott.*—We make machinery, boilers, &c. There is also a department for joiners who work in wood. The day's work is from 6 till 5½, with meals. There are two other works of the same kind in the town. Sometimes the hands must work late, either because we are busy ourselves or the machinery in some factory breaks down. That must be put right at once, or would throw the factory out. It may probably be that only a few hands are required to work late. The time-book shows, *e.g.*, that while some have worked only their usual time, some others have made 9¾, 9, 8½, 6¾ days in a week, and so on. There is no need for any legislation as regards our business, but if there were it would not throw us out much. We should merely send the lads home. Full three-fourths of those employed here are men, and scarcely any of the boys are under the age of 13.

262. *Benjamin Bagnall*, age 15.—Riddle sand, &c. in the foundry. The hours are from 6 till 5½, with meal times; but we give over work at all times, as we are wanted, *e.g.*, at 7, 8, or 9 p.m. The latest that I have worked is till 12 p.m.; had to begin again at 6 next morning.

[Another boy of 16 had worked till 10½ p.m.]

263. *Mr. Michael Thomas Sadleir*, medical officer of health for Barnsley.—The bulk of the population of the town, which is about 18,000, are engaged in linen manufactories and collieries. The hand-loom weaving of linen is fast decaying here. There are a few iron-foundries where machinery, boilers, &c. are made. Accidents happen at the bobbin mill from cuts, chiefly to boys.

I am very glad that Government is taking up this inquiry. The factory legislation has contributed wonderfully to the good feeling and contentment of the working classes. All like it now. Even masters and others who opposed it approve of it, and the working classes speak of it as "our grand charter." In this neighbourhood we have the means of judging. The change of feeling in this town since it was introduced from one of political and social disquietude to one of order and contentment is wonderful. No one not acquainted with the facts could conceive it.

MESSRS. S. LAYCOCK AND SONS', HAIR SEATING AND CURLED HAIR MANUFACTURERS, PORTOBELLO AND MILLSANDS, SHEFFIELD.

Hair seating.

264. This is now the only manufactory of the kind in the town. Out of towards 300 persons employed all but eight are females, about a third of them under the age of 18, and a third of these under 13. The first processes are for preparing the hair, which is brought in its rough state as it is taken from the animal; in part of which steam power is used at the Millsands works. Most of these processes cause some dust. The curled hair, used for stuffing mattresses, &c. is produced by spinning hair into a rope, which is then twisted, which is done at present by the hand, though steam machinery, it was stated, would perhaps be used.

265. The girls are chiefly servers to the women who weave, but they weave also. This work is free from dust, and it must, therefore, be the earlier processes in which the injurious effects from dust, which have sometimes been attributed to the manufacture, arise. The girls sit, leaning over their work, and complain of aches, &c. Some of the looms can be worked by steam, but are not, in consequence partly of the general objection of trades unions to the introduction of machinery, partly of an intimation received that the use of steam power would bring the Portobello manufactory, in which the weaving is done, under the operation of the Factory Acts.

266. At the Millsands works arrangements are being made for securing more air and space, which are needed. The workshops in the Portobello manufactory are light and cheerful, but some smell close, the windows being all shut. Conduits and closets have been placed on the landings, and great care is used by the employers to insure propriety of conduct and general comfort. A school was established for the workpeople, but given up owing to the difficulty of securing attendance. The girls show great need of it.

267. The Messrs. Laycock, though most readily affording all the information in their power, in their Tabular Return strongly deprecate any legislative interference, which they consider to be quite unnecessary, while it would be attended with serious inconvenience and injury to their business. Their hours, however, never exceed the factory day, and are often less. They consider that relays of children could not be employed, as the remuneration would not admit of paying two girls in place of one. They do not, however, suggest any other difficulty as to relays, nor is there any arising from the nature of the work, which is very simple. They employ 25 children.

268. *Sarah Hopkins*, age 13, server.—Here five years come Good Friday. The hours are called from 7 till 7, but we come later if we please, as at 8 or 8½, and some do so, but we all have to be out by 6½ or a little after all through the year. Have us breakfast before we come, and have an hour for dinner at 12; sometimes stop only half-an-hour for it, never less, but generally more. Most have it here. Do not

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know what I earn, because I serve for mother. She is paid so much a piece ; a piece for which she gets 18*s.* will perhaps take a fortnight. She does not put anything by for me ; she can't afford it. Sometimes I weave and mother serves, sometimes for a whole day. The weaving tires both my arms and my legs ; the serving tires me too, but not a deal. We have to stop every 10 minutes to fetch the " temples " across the work. Have a week at Christmas, and three days at Whitsuntide, but have not any more holiday in the year.

Cannot spell. Wanted to go to school to learn to read, and asked mother, but she could not spare me, as she wanted me to do the work at home while she was at shop. Go to chapel Sunday morning, and to school in the afternoon. Can't tell any of the names that the preacher reads about. (*Knows some Scripture names when mentioned*). We can't hear so very well ; can hear when he says the names, but not what he says about them. The Queen lives in London, but I do not know if she has any name besides " the Queen," or how many days there are in a year or month. Was never outside the town or in a field. They call corn wheat ; there is not any other corn. There is barley corn, but not oat.

269. *Eliza Siddell*, age 16. Server to my sister, but weave more than I serve. She pays me 7*s.* 8*d.* a piece, which takes sometimes a fortnight, sometimes more, sometimes 10 days. The time is different, because sometimes there are dark days and we cannot see, and sometimes she or I are at home poorly. Sometime we come before 8, sometimes before 9 ; 7 is the proper time. Cannot stay later than 6½. The weaving tires my legs and across my back and shoulders, and when it is very hard I very often have pain in my side. Very often ache across my shoulders from it after I am at home, and sometimes when serving, but not so often. Have to lean forward all the time I am serving. Have a cough when I have a cold; it hurts me in my stomach here (chest).

Know some letters, but very few. Have not been to Sunday school so often lately, and never was at work day school ; father had not the means of keeping us at home. He is a file striker. Cannot count figures. Four times 7 is 30 ; —is 28, isn't it ? Always thought France was a country, and have heard say that they go over the sea to America, but do not know what they call the water. Sea is water, I expect. Can't say at present whether there is water all round England, or what an island is. Have heard say that the Scotch do not like the English. Could tell a Scotchman because he looks very queer beside an Englishman ; he wears queer clothes from what we do.

270. *Annie Bull*, age 11, server.—Can weave a little bit, but not a deal. Sometimes the woman lets me weave a little bit at dinner time before we begin again. Sometimes stop nearly an hour for dinner, sometimes half an hour. All do not begin again at the same time ; it is when each weaver likes. Sometimes it is 8 or 8½ a.m. when my weaver comes, but I come afore her and get things ready. Had to come the first eight weeks for nothing as a learner, and then got 6*s.* a piece, but shall get to my 8*s.* this piece. Wear this little handkerchief round my neck because it's so cold in the morning. Have to keep going out and warming us hands when it's so very cold.

It is a good many years since I was at any work before I came here. T'master made horn buttons, and we had to clip the edges. There were five or six girls, all about my age; think I was going in 9. We worked from 7½ to 6, with a dinner hour. Got 2*s.* a week, and master gi'en me 2*d.* for mysen.

Can say the letters, but not spell many. Go to school on Sunday and used to go on week days. Have seen a river at Wicker (part of the town). Don't know if there is any bigger river anywhere. The sea is bigger. Think the sea is not many miles across that ways (*pointing*), but many a mile long. There is only one sea, and I cannot tell the names of any.

271. *Sarah Ellen Thompson*, age 9.—Server to my sister a year and a half and can weave a little bit. Do sometimes when we stop for dinner. My sister, who is 21, gets 19*s.* for this piece and gives it to mother.

Can't tell any letters. Go to school and church on Sundays. Can't tell what the preacher reads about; we can't hear what he says, because we can't often see him. We sit very high in the gallery and he is low. Three times 3 is 9,—is 12. Have seed a soldier. A sailor goes in a boat on the sea. Don't know what a ship is ; think a sailor sometimes goes in one. Don't know if an eagle is a bird. Me'll go to heaven, and everybody ; not the bad.

MESSRS. G. BASSETT AND CO.'S, CONFECTIONERY MANUFACTURERS, PORTLAND STREET, SHEFFIELD.

Confectionery.

272. The size and nature of the buildings, the use of machinery for several purposes, *e.g.* grinding sugar, moving large revolving pans, &c., and the number of persons employed and processes carried on, give this establishment the character of a regular factory. Towards 150 persons are employed, nearly half of them children and young persons of both sexes. Most of the younger are engaged in simple hand work, as helpers to the men, arranging the confectionery on trays for drying, carrying, packing, &c., and some in making small packing boxes. The mixing of the ingredients for lozenges, comfits, &c., the spreading, cutting out the paste, and several other processes, are for all practical purposes just the same as those carried on by ordinary bakers or confectioners. A pleasant smell fills the works. Most of the employment is healthy.

273. The cleanly look of the children and their bright faces form a great contrast with what are usually found in metal works. The necessity for cleanliness and as much self-control as human nature admits of in boys and girls working constantly amongst piles of sugar plums and candied lemon peel, leads no doubt to a selection of a good class of workers. The hours are those of the regular factory day, and, with slight exceptions, are not exceeded. No child whom I questioned had worked overtime, though one or two do so occasionally.

274. *Mr. G. Bassett.*—The work is pretty regular. We have rather more room than we had, and can now employ more hands, and so avoid overtime, which we were occasionally obliged to have. Looking through the time tickets for last week I see that two boys, each about 12 years old, made 14 hours actual work one day, but I do not see that any other young ones made any overtime in the week. Their work is at packing boxes. The early hours, viz. 6 to 6, which we have here, are I believe unusual in Sheffield. One winter I fixed them at from 7 till 7, thinking that it would suit the hands better, but they liked from 6 till 6 best, because, as they say, it gives them such a nice evening to themselves.

The work is healthy. The worst part of it is sifting or working with the powdered starch. Moulds for running lozenges, &c. into are made of this. The stoves are hot, and boys are occasionally sent into them, but it is the men's work properly. Children scarcely can keep so good an appetite here, I should think, considering the quantities of sweets that they eat,—as much as ¼ lb. each in a day, I should think. There is a rule forbidding this, but of course it cannot be really enforced. The work rooms are built on

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the four sides of an open square, and we can ventilate the rooms well. This is necessary in a work in which we cannot have the windows open much. We are obliged to have tidy children. Plenty apply whom we have to send away because they are dirty.

The wholesale confectionery manufacture is carried on more in the provinces than in London, especially in York and Scotland. The much lower cost of coal here is a great advantage, as we have to use a great deal of steam power. In the Glasgow and Dundee manufactories large quantities of marmalade are made. The processes and manner of work must be much the same in all. Our foreman and several of our men have come from Scotland, York, and other places, and from them I gather that the system of work is much the same in all.

I have been thinking of putting up a library and recreation room on the premises. A printed copy of the rules of the workers is given to every person.

275. *Francis Winsley*, foreman of the works.—In some parts of the works 2½ hours *i.e.* a quarter a day's overtime is sometimes made, but this is not in the part in which most of the children work. In the cellar or lemon-peel department we used often to have to make overtime a bit, but since last year we have had a better system. The premises have been enlarged and more hands are put on. This is much more satisfactory to everybody.

MR. J. GLADWIN'S, PAPER MILLS, ECCLESFIELD.

276. The stated hours are from 6 a.m. till 8 p.m.; steam as well as water power is used. Some machinery in a narrow entrance passage, which almost touches the passer by, and one or two bands, are unprotected, but the place was said to be "very fortunate" as to accidents. Heaps of refuse were lying about, and unhealthy looking mud lying uncovered in a small reservoir in front. The works are on a small scale. There are a few other small paper mills in the neighbourhood. A great quantity of paper is needed for wrapping up the Sheffield goods.

277. *Mary Madin*, age 12.—Catch paper at the cutter. A big girl passes the paper into the rollers at the other end. Work here from 6 a.m. till 8 p.m., but now from 7½ a.m. till 9 p.m. instead. Have an hour for dinner.

Can read, write, and do sums, *i.e.* £ *s. d.* Was at day school till a year ago.

MISCELLANEOUS EVIDENCE.

Medical.

278. In a copy of "Information supplied to Mr. Timothy Holmes, F.R.C.S., in the course of a Government Inquiry about the Hospitals of the County, June 1863," kindly furnished to me by Mr. Hy. Jackson, an eminent surgeon in Sheffield, appear the following question and answer:—

"What particular affections are prevalent in the town, and what in the hospital ?—Phthisis pulmonalis, pneumonia, rheumatism, grinders' asthma, and lead paralysis are among the chief, with occasional epidemics of scarlatina, rubeola (variola at present). Fever is rare, and generally occurs sporadically."

Accidents.

279. I am also indebted to Mr. Jackson for the following table:—

ACCIDENTS caused by MACHINERY to LADS under 18 years of age admitted into the Sheffield General Infirmary from November 1, 1862, to November 1, 1863.*

	Name.	Age.	Nature of Accident.	Remarks.
1	Bennett, James	16	Compound fractured arm.	He was caught in a drum.
2	Skinner, Peter	10	Compound fractured thigh and leg.	Ditto.
3	Bashforth, Wm.	12	Fractured leg	Ditto.
4	Allen, Richard	15	Contusions	Ditto.
5	Hord, Henry	10	Lacerated hand	Ditto.
6	Biggs, William	12	Contusions	Ditto.
7	Clayton, James	15	Compound fractured finger.	Caught in a cog-wheel.
8	Finnan, William	12	Scald of foot	From hot metal getting into his boot.
9	Devonshire, John	14	Burn of foot	A splash from a hammer caught his foot.
10	Foster, Henry	13	Ditto	From hot metal.
11	Shaw, William	13	Burn of leg	From hot metal.
12	Foulstone, Wm.	17	Scald of eye	Ditto.
13	Ogley, George	16	„ of foot	Ditto.
14	Bunting, Joseph	17	Wound of leg	From hot wire.
15	Williams, John	8	Lacerated arm	A beam of iron fell upon his arm.
16	Barras, George	12	Fractured thigh	He was boring an oven and it fell on him.
17	Hopkins, Walter	14	„ leg	A piece of metal fell on his leg.
18	Marrison, George	13	Scalp wound	His head was hit by a crane handle.
19	Amos, Thomas	14	Wound of thigh	He was rolling iron and fell down.
20	Wilson, Henry	14	Wound of abdomen.	Was grinding knives and the points went in.
21	Brown, William	14	Injury to head	From breaking a grindstone.
22	Manning, Thomas	8	Concussion	He fell from a scaffold.
23	Holmes, John	12	Wound of palmar arch.	From a knife blade while grinding.
24	Lee, Richard	17	Wound of cornea	From a piece of metal.
25	Marsden, Wm.	14	Foreign body in eye.	No history. (Qy.—A "mote" in grinding.—J.E.W.)

* Some of the cases are omitted from the table furnished to me, as the description does not show them to be incidental to some manufacturing employment. The total number of surgical cases of all kinds for the year ending Midsummer 1862 was 584.—J. E. W.

280. *Mr. John Webster*, coroner. — My district includes Sheffield and all the manufacturing neighbourhood within 10 or 15 miles each way, except on the Derbyshire side. I have been deputy-coroner or coroner for nearly four years.

The most common kind of fatal accident from machinery is caused by bands, chiefly in putting them on or throwing them off. They happen in works of several kinds, *e. g.* iron-works, grinding wheels, cutlery shops, &c. Deaths have also happened from going through rollers, and generally to boys, though in one or two cases to men. My first inquest was on a boy whose knee was slit open with a circular saw and who died after a week of great suffering. One was taken up by a band to the ceiling in a surgical instrument making shop and killed. Fatal accidents to females from machinery are rare. In one case a man was killed by machinery which ought to have been fenced, and the manufacturer had found wood for the purpose, but would not find the labour, but left that to the man, and he neglected it.

Where a death is proved to have been owing to an unguarded state of machinery, I recommend that it should be made safe. Such recommendations are attended to only just at the time and have no general effect.

I never knew an instance where an action was brought under Lord Campbell's Act for compensation to the family. In case of any such claim on account of a fatal accident being made, I should be sure to be applied to for the depositions. The reason why such claims are not made is most likely the want of money necessary to undertake an action.

281. Amongst the copies of depositions furnished to me by the coroner are those taken at the inquest on a boy, aged 13, crushed by the fly wheel in a saw mill. "He had got on the top of the guard of the

"fly wheel to get some sawdust. Boys go there to get sawdust, but he had gone further than he "ought to have done." Metal Manufactures.

282. By permission of the writer, I extract below (No. 283) some remarks on the importance of light to health, from a work on "Health," published in this year, 1864, by W. Strange, M.R.C.P., physician to the General Hospital, Worcester, and formerly Sub-commissioner for taking evidence on the health of towns. They have an important bearing on the condition of many of the young engaged in the manufactures of the Sheffield district, especially those who work systematically by night, as in iron-works, thus losing the benefit of daylight, and others who work in gloomy places, as wheels in particular and several other workshops are. Sheffield District. Want of light. Mr. J.E.White. a.

283. "The beneficial effect of light upon the vegetable kingdom is well known to exceed that of any other natural agent. * * * Physiologists are not yet able to define the *modus operandi* of light upon the animal tissues with nearly the same exactitude as they are in the case of those of vegetables; still they have no doubt of the vast importance of this powerful agent as regards the preservation of health and the attainment of the full development of the animal frame. * * * As regards colour, it is pretty certain that animals suffer very much in the same manner as vegetables when the stimulus of light is withdrawn: their fibre becomes blanched, brittle, and inelastic. * * * In the case of children, whose bodies are undergoing rapid change, this fact is exemplified in a marked manner. * * * Light also acts upon the tissues of the body directly in hardening them and supporting their elasticity. The muscles of animals, when they are deprived of a proper amount of light, become soft and inelastic, the nervous power loses its tone from defective stimulation, and the elaboration of all growth seems to be perverted. * * * In the case of children, constant access to plenty of light through the day, and to the direct rays of the sun for a part of it, is most essential to health. Light assists in the elaboration of good plastic blood out of the food, and hardens the fibre after it has been laid down. It also acts as a stimulus upon the organs of sight, and by this means brings about more activity in the various cerebral functions than would otherwise be the case."

284. In a late letter to me, referring to the above subject, Dr. Strange, who contemplates enlarging on it, and giving general results drawn from various quarters, on "wanting light, as it effects the growth "and development of the young," states,—

"I have had opportunities formerly, when in Lancashire, of observing the effects of night work upon factory children, and I have no hesitation in saying that, contrary to what *some* employers were fond of asserting, those children who were subjected to it soon suffered in their health, as I, then attached to a dispensary, had abundant evidence of it."

285. Letter from the Secretary of the "Association of organized Trades of Sheffield and the Neighbourhood." Views of Operatives.

Sir, Sheffield, November 26, 1864.

I waited on the Secretaries of the Filesmiths' Society, who informed me that there are *about* 3,500 men engaged in the file trade, 1,250 lads or apprentices, and, so far as they knew, some 500 or 600 females. Their rules require lads to be bound before they are 14 years old, but many begin working so early as 9 or 10 years old, some descriptions of work (cutting the edges of saw files for instance) being more adapted for lads than men. * * *

We hoped to have had an interview with you in reference to the question of education and the employment of young children, but you having left sooner than we expected, we have been disappointed. You will find the question briefly touched upon in the enclosed report.

I may add that at our last delegate meeting a resolution was passed urging the trades to furnish you with all the information in their power on the questions you have in hand, and we agreed to assist them as much as possible if applied to.

I have, &c.

Wm. Dronfield,

J. E. White, Esq. Secretary.

286. Extract from the annual Report of the Executive of the above-named Association for 1864, enclosed with the foregoing letter.

"A question of considerable importance to the working classes was introduced to the notice of the Executive by Mr. Race, viz., the advisability of taking steps to restrain parents from sending children to work at so very early an age, and of compelling them to give their offspring a better education than they at present receive, and so to improve the rising generation as to counteract as far as possible the ignorance and vice that exist in our large manufacturing towns. The Government Commissioner not having then finished his enquiries, it was deemed advisable to postpone the further consideration of this question—the Executive, however, being of opinion that the subject was one well worthy the attention not only of themselves but of all well-wishers of the working classes; and they therefore pledged themselves to take up the question again at some future time."

287. The following letter is from a gentleman to whom I was referred as thoroughly acquainted with the manufactures of the district, and formerly Honorary Secretary to the Sheffield Chamber of Commerce, and himself a hardware merchant and manufacturer. General.

Sir, Sheffield, November 28, 1863.

The only answer which can be returned (*i.e.* to the circular, &c. forwarded by me, J.E.W.) is the brief and comprehensive one, that persons under the age stated (*i.e.* 18) are employed more or less in every trade carried on in this district. Perhaps they are most numerously engaged in all branches of the cutlery trade, either in workshops or warehouses, and next perhaps in the white metal, electroplating, and hair-seating trades, in all their branches. Still the answer holds good as regards every other occupation carried on in or around this town.

You will perhaps excuse my adding that, in my opinion, there is nothing, either in the character of the trades carried on in this neighbourhood or in the hours of labour ordinarily enforced, to call for interference or unfavourable comment; but that, if practicable, the employment of children from 10 to 14 years (which is quite common in many trades by their parent) should be diminished or modified, though how such a desirable end is to be obtained in this locality I really cannot undertake to say.

I have, &c.

W. C. Corsan.

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288. Letter from the Incumbent of Swinton.

Swinton Parsonage, Rotherham,
Dear Sir, November 21, 1863.

It will give me great pleasure to render you any assistance that may lie in my power, the object of the Commission being one in which I have long felt deep interest, and I am rejoiced to find that evidence is now being collected in this locality, where protection for the young is greatly needed.

Shortly after my coming to Swinton, about 10 years ago, a petition was sent from this parish in favour of the Sunday closing of beer-houses. It was signed by about 1,000 persons, but of these about 700 made their mark, the latter number including a schoolmistress!

Peculiar difficulties attend the management of our schools and the education of the children of our poor, owing to the migratory character of our population and the early age at which the little ones leave school altogether for labour, either in glass-works, potteries, iron-works, collieries, or agricultural employment.

The enclosed momorial was extensively signed in this parish, and was presented by the late Earl Fitzwilliam in 1857. All our manufacturers signed it, and many of their work-people, the only point on which they desired to be assured being that any legislation which might ensue from the adoption of the memorial would not be of a mere local character, but *national*, so that the labour market in this district would not be placed at an unfair disadvantage.

The colliers are most anxious for some general regulation by which the education of their children may be promoted, and it is one of the points for which their union is now agitating.

Surely if we can engage the sympathies of the working class themselves in this most important work, the battle is more than half won, one of the chief difficulties for legislation being thus removed.

I need not now dwell upon the *terrible* evils *physically* and *morally* resulting from the too early employment of the young of either sex. They abound here, and if unchecked must sap the foundations of society.

I am, &c.
J. E. White, Esq. John Levett.

289. The Memorial enclosed with the above letter.

To the Right Honourable the Lord President of the Committee of Council on Education.

The humble petition of the undersigned, being nobility, clergymen, coal owners, manufacturers, iron masters, school teachers, and others, in the district known as the South Yorkshire Coalfield, respectfully showeth,

That your petitioners view with deep concern the very early age at which children are taken from school, and thenceforth wholly employed in potteries, iron-works, collieries, and glass-works.

That this system prevents them from being properly instructed in their religious and moral duties, as well as from receiving that amount of intellectual education which would fit them to become good subjects of the Queen and useful members of society.

That while the age at which children may be lawfully employed in coal-pits is limited, this is not the case in potteries, iron-works, and glass-works.

That the Act 3rd and 4th William IV., chapter 103, entitled "An Act to regulate the Labour of Children "and Young Persons in the Mills and Factories of "the United Kingdom," having been found to be productive of the best results in the case of those classes of persons to whom it applies,

Your petitioners humbly memorialize your Lordship to introduce in the next Session of Parliament a measure which will extend similar benefits to those employed in the above-named kinds of labour, viz., in the potteries, iron-works, collieries, and glass-works.

290. Letter from the Incumbent of Thorpe Hesley.

Dear Sir, Thorpe Hesley, Nov. 26th 1863.

There are no nail factories in my parish. Those made here are wrought, and, as you suppose, at home. Children are employed in the trade, yet very few, and mostly above 12; hence they do not attend school.

The chief occupation for children in the place is mining. To this they are put when very young, evading the law by some means. There needs much stricter inspection on the subject than we have at present. Indeed, through this and similar causes, the young are growing up in perfect barbarism; and what the consequences of such a state of things will hereafter be surpasses conception. Education is neither sought after nor cared for. Parental control is defied, and morality at the lowest ebb possible. My own opinion is that the Legislature *must* interfere by some strong compulsory measure; ought to provide free education up to 12 years for every child, and insist on the negligent sending their offspring to be taught. No other method would answer in a population like mine. * * * * *

* * * * * *

Yours truly,
J. E. White, Esq. R. C. Weston.

291. Letter to me from the Incumbent of Kilnhurst.

Kilnhurst Parsonage,
Dear Sir, Nov. 21.

The subject of the employment of young children in manufactories is one which cannot fail to be deeply interesting to any clergyman who has the charge of a parish with a manufacturing population, as it is one of the greatest difficulties with which they have to contend in connexion with education.

I fear that my experience is like that of most of my brethren similarly circumstanced. So soon as the children are able to earn anything the parents take them from school, and their only subsequent opportunities of receiving instruction at all are at the Sunday or night schools.

(Potteries, glass, iron, and coal works are then referred to as the employment of the immediate neighbourhood.—J.E.W.)

Yours faithfully,
H. Fleetwood Sheppard.

292. LETTER to me from the Incumbent of Oughtibridge.

Oughtibridge Parsonage, Sheffield,
Dec. 3rd, 1863.

DEAR SIR,

THE file trade is the principal trade carried on here, but the mechanics work in shops of their own, and take their work to Sheffield when finished. We find the attendance in our national schools materially affected by "boys and girls" beginning at 10 years of age to cut files. Very few boys stay in the school beyond 10 years of age. They just leave when they are beginning to do the master and themselves credit.

Yours faithfully,
WM. KNIGHT.

RETURN furnished by the Rev. W. Knight in Nov. 1864, of numbers attending the Oughtibridge National School:—

—	Between the Ages of			Above 12.
	6–8.	8–10.	10–12.	
Boys - -	11	31	9	4
Girls - -	3	14	10	9
Total -	14	45	19	13 = 91

293. I am informed that the recent establishment of an umbrella manufactory in Hathersage, in which many young children are employed, has had an unfavourable effect upon the attendance of boys at the Church school, the effect being that they leave entirely at an early age, or come only irregularly when work is short. Such children earn from 1*s.* 6*d.* to 3*s.* a week, and their fathers, in several cases, from 30*s.* to 50*s.* According to a list of children working in factories in Hathersage last year supplied to me, two were between 7 and 8 years old. A table of the ages of the boys and their average number of attendances is subjoined:—

294. COMPARISON of the AGES and the ATTENDANCES of the BOYS attending the HATHERSAGE CHURCH SCHOOL.

Number on the Books, aged	Nine Months ending Mar. 31, 1864. No. of times the School was opened, 313.	
	No. of Age.	Average times of attendance of each Age for the above period.
Under 6 years of age - -	13	—
Between 6 and 7 years of age -	11	222
„ 7 „ 8 „ -	12	202
„ 8 „ 9 „ -	14^1	208
„ 9 „ 10 „ -	9^2	258
„ 10 „ 11 „ -	10^2	227
„ 11 „ 12 „ -	5^1	188
„ 12 „ 13 „ -	9^1	121
Over 13 years of age - -	6^3	152
* Total on the books -	89^{12}	—

* The average daily attendance at the school has been from 60 to 65, but all these mentioned "on the books" have attended at one time or other during the years specified.—T.S.

The small figures in the "Age Column" denote that the same number are sons of farmers or tradesmen..

Hathersage, November 24th, 1864.

295. *Mr. G. H. Hurst*, master of the Feoffees' Endowed School, Ecclesfield.—My experience of a school near Halifax, of upwards of 300 pupils, boys and girls, the greater part of them factory half-timers, of which I was head master for six years, was that the generality of half-timers made quite as much progress as the others who attended regularly, and, if sharp, more; and of course more than those who came to school all day but not regularly. Working in a factory generally made the children sharper than the others. The half-timers who came at 8 years old generally came knowing nothing, but they left at 13 good scholars, *i.e.*, they could read, write, and sum, and had a general knowledge of Scripture, with general ideas, also, of geography, history, and common things. Many came at 10 or 11 years of age, and these at 13 could only read, write a little, and do easy sums. Those who came later unable to read, as many did, had not time to get on much. When they are so backward it takes a long time to form an idea even of letters. In common cases a quick child will be able to read easy sentences after six months' school.

The school at Ecclesfield is worked upon the National system. The population of the village is about 1,600, or, with the hamlet of Grenoside, about a mile off, about 3,000. The Sunday school is attended by about 500 children, most of them, except some girls, under 13. But at the day school the number on the books is only about 180, from 6 years old upwards, and the average attendance is only about 140 or 150. Of those who come only on Sunday a great portion cannot read sensibly, *i.e.* so as to understand what they read; and most of what they do know they have learned at the Sunday school. Those who attend the day school do so very irregularly, and leave at an early age, the greater part at 10 or 11, only a few staying till 13.

Some go off to iron works and coal pits, but the mass, both of boys and girls, go to file cutting, screw and bolt, gimlet, bracebit, or nail making, at their homes or in small shops. The only factory is a paper mill. Some, I should say, begin work at 6 or 7 years old. Many come to school or go to work just as general trade or the private work of the family happen to vary. Some come to school for a few weeks or days, and are then absent for a few weeks or days. This quite prevents anything like satisfactory progress, and in many cases anything worth calling education at all. Many, when they finally leave school, are quite unable even to read, and of course to do anything more advanced.

They are not likely to make this up afterwards. Boys over 13 do not come to Sunday school because they are ashamed of being put, as backward, beside children of, say, only 10, and even if they are put in a separate class they are ashamed of this too. And if they were not, there are neither the time nor the means at Sunday school, with so many scholars, to teach even the simple elements to those who need it.

This winter I have started a night school at a weekly payment of 3*d.* each scholar, but otherwise at my own expense, which is considerable, as I furnished books and slates, though not the copy books, and I have already spent 2*l.* in lights alone. There were 60 names down, but the average attendance has been only about 30. The rest fall away when there is much work to be done, as they have to stay at work late. One of the three school nights was Friday, but I found that that did not do at all, as scarcely any came. The girls' school was from 6½ till 9, and the boys from 7 till 9½. It was long, but necessarily, because I must make all read, write, and sum, and could not provide the expense of more teachers. The parents are well able to pay, at any rate, the lowest rate at the day school, viz. 2*d.* a week for elementary teaching, and, with the exception of cases where there are special circumstances or very large families, for the higher grades of 4*d.* and 6*d.* also. Many earn 30*s.* or 2*l.* a week. From talking over the subject of earnings with the scholars lately, I find that a boy of 15 who is a good worker can earn towards 15*s.* a

Metal Manufactures.

Sheffield District.

General.

Mr. J.E.White.

a.

week, and one of 10, 5*s.* or 6*s.*; while girls at file cutting can earn nearly as much as boys. The amount given up by parents in sending their children to school all day would thus be considerable, but with good arrangement they might earn quite as much and get taught too. There is scarcely any work done on Monday by either parents or children, and by many none even on Tuesday morning. By Saturday morning the week's work is finished, or nearly so. I hear the lads say that they shall be glad when Friday night comes, because they will give up work then. I hear all about the work from talking to them.

This irregularity of work is of course a great difficulty in all home occupations. The people here will work all hours, all night if necessary, to finish the work to be taken in on the Saturday. They can then afford to be idle at other times. They generally have their material in plenty of time to begin work with at once, as they either bring it back themselves when they take in their own finished work or have it sent out as early by carrier or on asses with panniers, &c.

If the children worked regularly through the week they could do quite as much work and attend school also like half-timers. Even if it were necessary for them to work all day Friday, which is so busy a day, still the half-time school on the other days would be very valuable.

It would be a benefit if something of the kind could be extended to children engaged in agricultural employments as well. The mind of country boys is so slow that schooling is needed even to fit them for working profitably. The children of even small farmers, of whom there are several about here, are almost more backward than any.

Needles.

296. *Mr. Robert Cook*, needle and hackle pin manufacturer, Hathersage.—We are the largest hackle pin manufacturers in the trade, and make needles also. We thus use a greater number of stones for pointing and grinding than any other two firms in the business. We have 23 stones, and are going to put up 10 more. My father introduced the needle trade here from Redditch 54 years ago. There is a little hackle pin, but no needle making in Sheffield; here there are two smaller firms. With these exceptions, the great, indeed the only seat of the trade in this kingdom, is still in Worcestershire and Warwickshire. Redditch, Alcester, Studleigh, and Astwood Bank are the chief places in which it is carried on. There are, I should say, a hundred manufacturers, great and small, and a population of * 10,000 persons engaged in the trade in that district. It is rare, however, for a person to carry on all the operations of the manufacture on his premises as we do, but work is there often given out to be done by different small masters, of whom some merely point, others harden, others scour, and so on; some employing, perhaps, only two or three workers. Of late, however, the tendency has been to concentrate the work more in large manufactories, and this will no doubt be more the case in future.

We have put up fans and piping to protect the workers from the dust, which would otherwise be most injurious to their health. They are a considerable expense, not merely in putting up, but also in keeping them going. One takes six horse power, and the two others take three horse power each to work them, and this costs 10*s.* a day. But they are so indispensable to health that every manufacturer ought to be obliged to use them.

A 20-lb. "packet" of steel wire loses from 4 lbs. to 5 lbs. in the grinding, and we grind about 100 packets per week, so that from our 23 stones these fans blow out about 74 lbs. weight of steel dust in a day. (Taking $4\frac{1}{2}$ lbs. as the medium, the amount will be 450 lbs. in a week, or 75 lbs. in a day.—J.E.W.) There will be, besides this, a very large quantity of stone dust, the amount of which I cannot calculate exactly (Mr. Cook had guessed it roughly as very far larger.—J. E. W.), carried out by the fans in the same time. Anyone with a delicate chest, on going near the outlet of the flues, begins to cough. The great bulk of this large mound at the back of the works has been thrown out from the flues in two years. At present the dust escapes in the open air and floats away on the wind, which is not desirable. It eats into everything, *e.g.*, the slates of the roof, and even the glass of the windows, so that in time the surface crumbles away and we have to put up fresh. The glass gets so encrusted with steel rust that it can only be cleansed by oil of vitriol mixed with the water used. We think of putting a reservoir of water to catch the dust as it comes out of the flues, and so prevent its escaping. We have tried this plan partially by turning one flue into an open drain of water, and it answers well. The dust should never be allowed to escape, so as to be carried over houses or frequented places.

We have had Worcestershire manufacturers come down here to look at our fans and arrangements. The larger employers there use fans, I believe, but many, especially those who employ just a few hands, do not.

It is quite as essential to use a fan and pipe to carry off the dust made in polishing hackle pins, which is done on a wheel covered with emery. At this work the nostril becomes covered with black. We are, I believe, the only employers in the trade who use a fan for polishing hackle pins. The scouring or polishing of needles is done by placing them in bags and rolling them backwards and forwards in a machine something like a mangle; no dust escapes in this process.

One of our pointers is 16 years of age, and all the rest over 18. It requires considerable skill to hold and turn the needles in the hand properly to grind them.

In the umbrella-iron branch of our manufacture a large number of girls are employed, chiefly in shaping and punching the ribs, &c., with hand flies, but there are several other processes, *e.g.*, tempering, &c., in which men, boys, and girls are engaged.

Wire drawing is a business that we also carry on, as needed for both our needle and our umbrella departments.

* According to the last census the number of persons in England and Wales engaged in the needle manufacture is 2,334 males and 1,742 females—total, 4,076.—J. E. W.

The FOUNDRIES, MACHINE SHOPS, &c. in LEEDS and other Towns in the WEST RIDING of YORKSHIRE.

Gentlemen,

Foundries, Machine Shops, &c. in Leeds, &c.

Mr. F. D. Longe.

B.

1. A large portion of the male population of Leeds, Bradford, Huddersfield, and other towns in the West Riding of Yorkshire are employed in works which are generally designated as Foundries, and in which the following manufactures are carried on:—

(1). Steam engines, locomotive and stationary, railway-carriage wheels, &c.

(2). Self-acting machinery, employed in other metal manufactures.

(3). Machinery used in the worsted, woollen, flax, and other spinning and weaving trades.

2. The women and children of the district are principally employed in the woollen and flax mills, which are already under the Factories Acts. There are, however, several hand-loom carpet and blanket shops in the neighbourhood of Dewsbury in which children are employed, which are not as yet brought under these Acts.

3. In a former report I have submitted the evidence which I took in the iron works and rolling mills of the district.

4. The hands employed in the two first of the above-mentioned branches of the iron or metal manufacture, are chiefly highly skilled workmen, engineers, ironfounders, millwrights, mechanics of various branches, joiners, &c. The younger portion of these hands consist of apprentices, in many cases bound by deed at the age of 14, and seldom taken before 13 years of age at least.

Numbers and ages of children.

5. In some of the foundries, however, or machine shops (as works of this class are sometimes called), the work is very much confined to the manufacture of only one or two kinds of machines used in spinning or weaving mills. In these works a great number of boys between 10 and 14 are employed in doing the more simple work. In a large loom manufactory at Bradford, out of about 300 hands, 70 were boys of ages varying from 9 to 15. (Evid. 27–29). The general age at which boys are taken into the machine shops is between 11 and 12.

6. In nearly all the foundries, boys of 11 or 12 years of age are employed as errand boys, to carry tools from one shop to another. These boys, however, as appears from the returns sent me by employers, would not average more than 5 or 6 per cent. of the hands employed.

Employment of children.

7. The employments in which the younger boys are engaged in these works are (1) running errands, (2) minding self-acting machines, (3) drilling holes in iron or wood, (4) filling combs with teeth. In this last employment the younger children are engaged. There is no skill required. The master of a large card and hackle manufactory expressed his opinion that girls could do this work as well as boys. (Evid. 30.)

Employment of youths.

8. The youths and apprentices are employed in the same kind of work as the adults. The principal employments are filing or fitting, turning cast or wrought iron, minding self-acting machinery, or assisting the founders in the casting shop. With the exception of turning cast iron, the employments in these works are not unhealthy. I believe few youths are employed in that work. (Evid. 21.)

Hours of work.

9. The prevalent evil in these trades, which the evidence I have collected will bring before you, is the system of overwork, which is common in almost every manufactory. The regular hours are generally from 6 a.m. to 5.30 p.m; in some cases to 6 p.m., or 7 p.m. (Evid. 10.) The half hour for breakfast and hour for dinner are very regularly observed. When work is continued to 7, or when the hands are going to work overtime, half an hour is allowed at 5 p.m. for tea. On Saturdays most works close, in some instances at 1.30 p.m., and in others at 4 p.m. It is only in a few manufactories, however, or for a part of the year, that the regular hours represent the actual hours of work. One boy of 16 years of age worked from 6 a.m. to 10 p.m., for about five months together. (Evid. 5.) Another boy of 16 years of age had worked at filing, generally from 6 to 7, sometimes three days running, to 11 p.m. (Evid. 8.) In one of the largest works all the boys had been working to 8 for the last five weeks previous to my visit. (Evid. 12–14, see also Evid. 16, 18, 28, 31, 32.) It is by no means uncommon for the elder boys to work through one, if not two, nights in the week. (Evid. 17.) One case was mentioned to me of a lad having worked from Monday morning to 5.30 p.m. on Tuesday, on Wednesday from 6 a.m. to 5.30 p.m., and then from Thursday morning to 5.30 p.m. on Friday. (Evid. 22.)

10. The employment of filing or "fitting," as it is called, is very laborious. In the machine shops, where the division of labour system is carried out more completely than in the other works, the labours of a large portion of the hands are confined to the self-same work from one year's end to another. In some works the young "fitters" are not allowed to work overtime. (Evid. 2). Although there is nothing specially injurious to the health in most of the operations in which these mechanics are engaged, the system of work evidently shortens the period during which a workman can earn wages as an able mechanic. "When a man gets to 50 or 55 he begins to fall off." (Evid. 22, 34.)

11. So far as overwork is required for the purpose of repairing machinery, on which the employment of other classes of labourers is dependent, there is undoubtedly a good reason for its being resorted to. In the case of a large locomotive engine factory, the employers, who strongly objected to overtime as a rule, had been obliged to work overtime for some weeks, in order to repair engines injured by the frost; many workmen employed on railroads being necessarily kept out of work until they were repaired. Repairs, however, by no means form the principal part of the work in any of these foundries; the fixed machinery in mills and other works being generally repaired on the premises by millwrights and other mechanics kept in regular employment by the proprietors. With the exception of a small portion, the work carried on in all these foundries is the manufacture of engines and machines of all kinds to order. In such cases the main reason for employers accepting orders, which they cannot complete without overtime, is the fear of letting the order go to other works. In this the workmen are not equally interested with their employers. But the increased wage which overtime affords renders it, generally speaking, far too acceptable. A boy, who at 18 years of age was only earning 8s. a week at

Foundries, Machine Shops, &c. in Leeds, &c.

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B.

regular work, had made 16*s.* and 17*s.* a week, when he was only 16 or 17 years of age, by working overtime. (Evid. 5.)

12. All the employers express themselves opposed to overtime. In one large machine and tool factory the employers had managed to carry on their trade for seven years without overtime, except for one fortnight. (Evid. 21.) The manager of these works says, "I should fully approve of a law preventing "overtime, as it is now prevented in the factories." (Evid. id.) Another large employer says, "I should not object at all to a 10 hours' bill, preventing overtime for young persons." (Evid. 7.) One employer suggested as an objection to restricting the hours of work of youths under 18 years of age, that unless they could work the same hours as adults, they would be kept back from learning many kinds of work in which they were now employed with men. He accordingly suggested that it would be better to restrict the hours of work only of boys under 16 years of age. (Evid. 6.)

13. With respect to the boys under 18 years of age, employed in these works, there are, as I have already observed, very few, except in some machine shops. The employment of boys of this age, at mechanics' work, is anomalous, and probably false economy. The operation of filling combs with pins, in which most of the younger boys are employed, might be carried on by relays under the half-time system, or by girls.

14. The majority of the boys who are taken at the age of 13 or 14 as apprentices, have either had the advantage of the schooling secured by the Factories Acts, by having worked as half-timers in flax, worsted, or woollen mills (Evid. 20), or (as in the case of the engine works more particularly) are educated boys of a better class. It is very common for these apprentices to attend night schools at mechanics' institutes, and other schools, whenever their hours of work will permit them. (Evid. 3, 22.) The boys under 13 years of age, employed in these works, have generally escaped altogether the education afforded by the half-time system, as well as that of the ordinary day schools.

15. With respect to the other matters of inquiry, I may state generally, that the workshops are for the most part large, and that the character of the work is not such as to permit overcrowding. The shops are almost all fitted with machinery, on which the boys are sometimes employed, but the shafts and straps are generally so arranged as to be out of danger. Accidents do occur occasionally, but they do not appear to be such as could be attributed to the unnecessary exposure of dangerous parts of machinery. The employment of young boys on dangerous machines is to a great extent prevented by the interest, as well as the humanity of the masters, as the boy is as likely to damage the machine as his fingers.

Other trades connected with the iron manufacture in Leeds, &c.

16. There are a variety of other trades connected with the iron manufacture, carried on in Leeds and the neighbouring towns—in small works and shops—such as the manufacture of spindles, screws, nails and bolts, spades, &c. In very few of the works, however, are there any considerable number of hands employed.

17. In one of the largest spindle manufactories in the district, out of 200 hands there were about 12 boys under 13 years of age. (Evid. 34.) But the process of manufacture requires too much skill to afford employment for boys under 12, or at least 11 years of age. (Evid. 37.) Overtime in these shops is not so common as in the machine works. (Evid. 34–35.)

Employment in the screw works.

18. There are a few cut-nail and screw works in Leeds. The character of these works and the system of employment is the same as in the screw works of the Wolverhampton district. The children and women employed in these works are generally of the same class as those who are employed in the flax and woollen mills. Although the employment is very dirty, it is considered far more healthy than the work in the flax mills, owing to the absence of dust.

Employment of children.

19. In the screw works a few boys and girls under 13 years of age are employed. An employer states, with regard to children of this age, "I do not think that we should have any difficulty in employing two sets of children under 13 years of age, as in the mills." (Evid. 39.) They are generally employed either in the warehouse, or, if put to making screws, they work the hand screw, and being paid according to the quantity they make they are not in the same danger of being overworked as when their labour is regulated not so much by their own strength as by the motion of the machine with which they have to keep pace. One little boy of 12 years of age stated that he was more tired after six hours' work in the hackling room at a flax mill, than after making screws from 6 a.m. to 8 p.m. (Evid. 40, 43.)

Dangerous machinery.

20. The machinery worked by steam-power in some of these shops is of a very dangerous character. The legs and arms of the workers are always in close proximity to wheels and straps revolving with the greatest rapidity. Although the large fly-wheels and a few other dangerous parts are guarded, the safety of the workers is for the most part dependent on great caution on their part, and on the employers taking care not to put young or careless children to any of these machines. (Evid. 42.)

I have, &c.

Francis D. Longe.

EVIDENCE.

At Messrs. Wardle and Manning's, Engine Works, Hunslet, Leeds.

Foundries, Machine Shops, &c. in Leeds, &c.

Mr. F. D. Longe.

b.

1. *Mr. C. W. Wardle.*—I think a law preventing the employment after 6 o'clock of all lads under 18 years of age might be carried out in our works. I do not think we should suffer. It would be a good thing for the lads. All the lads in these works, except the riveters, are apprentices. They are taken at 14 years of age. They get 4*s.* a week to begin with, and their wages rise 1*s.* a week each year until they are 21. Young journeymen earn from 1*l.* 1*s.* to 1*l.* 5*s.*

2. *Mr. Mackintyre,* manager.—We employ no boys under 14 years of age in the regular work. There may be a few exceptional cases where boys are taken at 13. It is a rule in our works that all boys who attend night school should be allowed to leave off work in time on those days if we are working overtime. We object very much to overtime for any of our hands, but we are obliged to have recourse to it in consequence of the fluctuation and peculiar character of our orders. For instance, lately, owing to the frost, we have had a great many locomotives to

repair for railway companies. Many of the men employed on these railroads were being kept out of work until the engines were repaired. The lads who work overtime are employed in attending self-acting machines. There is little labour attending this work. We do not allow our young fitters to be employed overtime.

3. *Edwin Waller.*—I am 15. I have worked here a year and nine months. I come at 6 o'clock. I go away at half-past 5, and sometimes I stay to 8. I have worked to 8 on Mondays, Wednesdays, and Fridays. I used to go to the School of Arts on those days. I always give over at 1 o'clock on Saturdays.

4. *William Gale.*—I am going 17. I have worked here two years. When I first came I minded a machine. I made 60 hours a week. Sometimes I worked to 8. I never worked after 8. I am now working as a fitter. I have never worked more than 10 hours at filing in a day. I used to work at a mill. I was a short-timer, and then worked as a whole-timer for a year or so.

5. *John Burnley.*—I am 18 and a half. I worked at another place before I came here. I was about 16 when I began to work there. There were 15 apprentices in one shop; we worked from 6 in the morning to 10 at night for about five months. We were working at railway wheels. We were paid overtime. All the boys liked to work overtime. I used to make 16*s.* or 17*s.* a week there. It was too much work. I only make 8*s.* a week here.

At Messrs. Kitson and Co.'s, Locomotive Works, Hunslet.

6. *Mr. Kitson.*—I have always been a great advocate for the education of the younger members of the working classes, and I took a leading part in favour of the Factories Acts 30 years ago. In my own works there are no boys under 13 or 14 years of age, indeed very few under 14. There is no work at which younger children could be properly employed. The only question, therefore, affecting my trade, would be the limitation of the hours of work for young persons under 18 years of age. I am of opinion that such a limitation, although it would undoubtedly be very advantageous for the youths, would have the effect of interfering with the freedom of the adult workmen, with whom they work as assistants, and it might cripple us materially in getting our work done. I am strongly opposed to systematic overtime, but I do decidedly consider that trade requires that we should be able to have recourse to overtime occasionally. Such a restriction on the working hours of youths between 16 and 18 would also have the effect of keeping them back in their education as artizans. There is much work to which older boys are put which they could not be put to if they could not work after 6 o'clock, so that they could not learn this high-class work until they were 18 years of age. Supposing the age was 16 and not 18, this objection would not apply so strongly. Most of the boys in my works are apprentices. We prefer lads who have been to school until they come to us. Except for riveters, we take boys of a higher class than those who have been at mills.

At Messrs. Newton and Co.'s, Flax and Tow Machine Manufactory, Water Lane, Leeds.

7. *Mr. Newton.*—We manufacture machinery for spinning mills. No women are employed at all in our works. Our rule is to take no boys under 14 years of age. We are very particular about this, and require the boys to produce a certificate of their age. We have about 60 boys between 14 and 18 years of age. Our regular hours are from 6 to 6, but we work overtime, and these boys sometimes work to 7, 8, 9, or 10 o'clock. I should not object at all to a 10 hours bill, preventing overtime for young persons. We dislike overtime, but we have been obliged to have recourse to it lately. There has been a good deal of work in the machine shops here for the last six months. We have had to work all night several times. We never work all the hands overtime at once. Overtime is generally only to 8. Of course if we were put under such a law, machine shops in Ireland and Scotland must be brought under it too. The hardest work is forging, casting, and filing. There are no boys employed in the forging department. About 8 boys are employed in the casting shops, and about 35 boys work at filing. Filing is the hardest work of all. Turning cast iron is unhealthy work.

8. *John Thomas Graham*, fitter.—I am going 16. I have worked here about a year. I come at 6. I go away at 7 or 8 at night. I have generally gone away at 7. I once worked all night. I have often worked to 11 o'clock. I have worked three days running till 11. I get 5*s.* a week. I have never got so much as 7*s.* We give over at 4 o'clock on Saturday.

9. *Charles Waincop.*—I am 15. I have worked seven months here. I am a fitter. I file all day. I begin at 6. I generally give over at a quarter to 6. I have stopped to 9 sometimes. Once this week I stopped to 9. I often work to 8. I never worked a whole week to 8. I have worked a whole week to 7. I got 5*s.* 4*d.* for that week.

At Messrs. Samuel Lawson and Son's, Flax and Hemp Machine Makers, Hope Foundry, Leeds.

In the Screw Shop.

10. *John Sykes.*—I am 15 next July. I turn screws. I have been here one year and a month. When I first came I nicked screws. I come at 6 and go away at 7. Those are my regular hours. The machine which I work at stops half an hour at breakfast, an hour from 12 to 1, and half an hour at 4½ to 5. I worked to 8 for one month before Christmas. I have never worked after 8. Since I have been here I have not known of any boy being hurt much in this shop. There was one case in another shop that I heard of. James Weller had his fingers cut off in a cog-wheel. Before I came here I worked for a farmer. I kept cows. I got no wages, but only my food and my clothes. I began to work when I was 10. (Can read.)

11. *Tom Smith*, driller.—I have just turned 12. I have worked here eight months. When I first came I filled. (Put pins into gill stocks.) Now I drill gill stocks. I have drilled three months. I get 3*s.* a week. I got 2*s.* when I first began. I can drill more holes now than when I began. When I first began I used to break my drill three or four times a day. I got scolded. Now I break it sometimes, but not so often. I used to spoil the stock too sometimes. I always go away at 7. I never stop after 7 now. (Cannot read.) I worked in two paper mills and a cloth mill before I came here. I have two sisters and two brothers. I never hurt myself. I never saw a boy hurt in this shop.

At Messrs. Smith, Beecroft, and Tannett's, Machine Tool Manufactory, Hunslet, Leeds.

12. *Thomas Lindley*, mechanic.—I am 16. I have worked here three years. I come at 6 in the morning and go away at 5½ in the afternoon. Overtime is to 8 o'clock. I have worked overtime five weeks lately. I never worked overtime before. I never have worked after 8 o'clock. On Saturdays we always give over at 4 o'clock.

13. *Alfred Shaw Turner.*—I have been here 11

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months. When I first came I run errands. I have been about six months at a turning lathe. I got 2*s.* 6*d.* when I first came, and I get the same wages now. I begin at 6 and give over at 5½. I have been working overtime to 8 o'clock for the last five weeks. I never worked after 8. I get 5*d.* a week more for the overtime. I went to school before I came here. (Can read.)

14. *George Green.*—I am going 13. I have worked here one month. I tool-look. I work overtime the same as the others. I have never worked after 8. I drilled holes at Wordsworth's with another boy before I came here. (Can read.)

15. *Joseph Airly.*—I am going 17. I have worked here ever since I was 13. I have never worked through a night. I have worked to 8, but never after. I go to night school twice a week.

At Messrs. Buckton's, Machine Tool Manufactory, Hunslet, Leeds.

16. *Mr. Buckton.*—Out of 356 hands on our works there are seven boys under 14 years of age, one of whom is not yet 13, and 50 under 18 years of age. Our regular hours are 10 hours a day, *i.e.* from 6 a.m. to 5½ p.m., with an hour and half out of that time for meals. On Saturdays work ceases at 4. We require a register of birth with all the boys we take. We have no regular overtime, but it occurs sometimes. If we have some particular work which we require to have finished in a very short time the hands engaged on that work, including the elder boys, might work through two nights in the week. Boys under 18 may have worked through two nights in a week, but it is an extraordinary occurrence. They would not generally be kept on after 8 o'clock.

17. *Edwin Rushworth*, fitter.—I am going 23. I have worked here ever since I was 15 years old. I generally work 10 hours a day, *i.e.* from 6 to 5½. I have worked through two nights in a week. I never did that two weeks running. I have only done it once. I worked four times through one night in a week. It is generally Friday night that we work through. We always give over at 4 on Saturdays. I never worked after 4 on Saturdays. I was 18 or 19 when I worked through the night. I don't think I ever worked through the night before I was 18. I can't call to my mind any case where a boy under 18 has worked through the night. I have worked to 12 o'clock two or three times. I don't think I have worked six times so late as that.

18. *Mr. Joshua Jackson*, foreman of the fitting department.—There are two boys under 18 working with me. Neither of them have ever worked after 8 o'clock. We generally give over at 5½. When we do work at night we do'nt work the boys. They do not work after 8 o'clock.

19. *Benjamin Barker*, foreman in the casting shops.—I have seven boys in the casting shops. I believe only one of these boys has been at a mill. I would rather have boys who have never been at work before they come to me. When boys have been some time learning the work of one trade they don't take to another trade so well. I like boys to have learning when they come. I like them to be well educated.

20. *William Strother*, foreman of machine department.—At the end of September in last year we were more pushed for work in getting orders finished for the Baltic than we have been for a long time. During that time boys under 18 worked to 10 for a week together. I am quite sure that no boy of that age worked two nights in a week for two weeks running, nor more than one night in a month. No boys worked so late as 12 for so many as four days in a week. We don't like overtime. Foremen get no extra wages for looking after the hands when they work overtime. I have always to stay to 8 o'clock when they work overtime. Of the boys in my shop about one quarter have been at mills before they came. Some of the boys from Marshall's have turned out very fine boys. I should prefer a boy who had been at a mill if he had schooling as well. They have got accustomed at the mill to the working of machinery. Their work in the mills makes them know something about the machines which they have to do with here.

At Messrs. Taylor, Wordsworth, and Co.'s, Machine and Tool Makers, Hunslet, Leeds.

21. *Mr. Benjamin Pollard*, manager.—We don't take any boys to work at regular machine work until they are 14 years of age. We have only three boys under that age in the works altogether. Our regular hours of work are for five days in the week from 6 a.m. to 6 p.m., with half an hour for breakfast and one hour for dinner. On Saturdays we close at 1½. We have only worked overtime for about a fortnight during the last seven years. I should fully approve of a law preventing overtime, as it is now prevented in the factories. Our principal work is making wool-combing machines. All these machines are made to order. Our customers often try to hurry us, but we will not work overtime. We can make a wool-combing machine in about a fortnight. Turning cast iron is very unhealthy work, from the dust of the cast iron which is inhaled by the workman. No lads work at cast iron. Turning wrought iron is quite healthy; there is no dust thrown off. Brass turning is also unhealthy, but the persons employed at this are nearly all men. I do not think we should ever want overtime, even in case of an accident to our machinery.

At Messrs. Matthew Rhodes & Sons, Machine Tool Makers, New Lane, Leeds.

22. *Mr. M. Rhodes.*—Our trade is to make the self-acting machines for making spinning machines, &c. I have only a few hands as yet, and no boys under 13. It is only in larger works where there are several rooms that errand boys are wanted to take the tools from one room to another. The youngest lad we have is 16 years old. He is a turner. The regular hours in our trade are from 6 to 5½. I was a journeyman mechanic myself. I have worked at Kitson's, at Smith, Beecroft, & Tannett's, and at Fairbairn's. We work much too long in our trade. I once worked from Monday morning to 6 o'clock on Thursday night, without stopping more than 3 or 4 hours. That is not a common occurrence. I never heard of any one else who worked so long as that. I was not working piece work. I was 21 years old then. I left Smith, Beecroft, & Tannett's before I was 21. I was getting 24*s.* a week for regular time. Before a man is 21, however good he is, no master will give him full journeyman's wages. We have a boy with us of about 18 years of age. He was getting 8*s.* a week at one place; he gets 9*s.* here. He is as good as a man. As a rule, lads who are not earning full wages would not be asked to work so long as journeymen. Many journeymen like working long, because they can earn such high wages. I have made an agreement with the lad of 18 whom I have just taken, that he shall always be able to attend his school three days a week. The utmost night-work I have ever known a lad under 21 do, was this:—From Monday morning to 5½ on Tuesday afternoon; on Wednesday from 6 to 5½, and from Thursday morning to 5½ on Friday, and on Saturday from 6 to 4. This lad was about 19 or 20. I should certainly like a law to prevent lads working through the night, but I think they ought to be allowed to work to 8. When I was a boy under 18 I never worked through two nights in a week, and I do not think it is at all often done. The errand boys at machine-tool shops do not, as a rule, work after 5½. Occasionally they might be asked to

work to 8. But I should say they never did such a thing as work through the night. In machine-tool shops the hands always give over at 4 o'clock on Saturdays. It is a very strong point with men stopping early on Saturday. Our engine stops regularly at 8 o'clock for half an hour at breakfast, and at 12 o'clock for an hour for dinner. If we are working overtime it stops again at 5½ for half an hour. Overtime is generally to 8 o'clock; overtime to 10 o'clock is not common. When work is going on to 10, boys under 18 would work that time just the same as the men. I have known boys of 15 to 18 years of age work 5 nights a week to 10 o'clock for 2 or 3 months together. Errand boys would not work to 10 o'clock. I began to work at 12 years of age at a tanner's in Swinegate. At 13 I went to Smith, Beecroft, & Tannett's as an errand boy.—I jobbed there for 6 months. Then I began turning. I turned for four years and a half. I never worked to 10 all that time. The wages of men in machine shops average about 1*l.* per week. A man of 21 can get 1*l.*; a very good man of 30 can get 28*s.* When a man gets to 50 or 55 years of age he begins to fall off.

At Messrs. Scriven & Holdsworth's, Leeds Old Foundry, Leeds.

23. *Charles Richardson.*—I have worked here two months. I come at 6 and leave at 8. I am 18 years old. I have worked all night for two nights since I have been here. I worked last Friday night, and the Friday night a fortnight before. I began at 6 on Friday morning, and worked to 4 o'clock on Saturday. I never worked after 4 on Saturday. I have worked to 10 on one night. We get extra wages for overtime from 5½.

24. *Edward Hutchinson.*—I am 13. I have worked here three months. I come at 6. I go away at 5½. I have stopped to 8. I never stopped after 8. I stopped to 8 the second night after I came. Then I stopped to 8 o'clock three nights in one week; and since that I have only stopped once to 8. I job about. I carry the workmen's tools from one shop to another. I do no regular work, such as filing. I get 3*s.* a week. I get 6*d.* a week for overtime. I never worked in a mill. (Can read.) I learnt to read at St. Mary's. When I worked to 8 I was not tired.

25. *Richard Jones.*—I am 17 years old. I am a turner. I have worked here three years and two months. When I first came I jobbed about. I come at 6. I usually work till 8, *i.e.* two hours' overtime. We always work two hours overtime. I have worked to 10. I have only once worked all night. I never worked after 4 on Saturday. When I worked all night it was on a Thursday. Master wanted to send off a machine on the Friday, and all it wanted was the work I had to do. I did the work in the night, and the machine was sent off in the morning. I only worked till half-past 5 the next day.

26. *Mr. Charles Scriven.*—We never require the errand boys to work after 8 o'clock. When our men work at night we get their tools ready for them. I should not at all object to the extension to our trade of the rule of the Factories Act which prevents the employment of young persons under 18 after 6 o'clock at night. If the age was 16 it would be better.

At Mr. G. Hodson's, Flax Machine Manufactory, Bradford.

27. *Mr. J. Hodson.*—We employ over 300 men and about 70 boys. Our work consists principally in the manufacture of one class of looms. There are other manufactories of the same kind in Bradford, but they do not all employ boys. The youngest boys we have are about 9 or 10. They square centres and drill.

28. *William Feather.*—I am going 14. I have worked here four years. I am going to be a fitter. I never went to school. I never went to a mill. I have no father. I come at 6. I work to 6½. That is my regular work. After that it is overtime. I have worked to 3 in the morning. I have often worked to 10 at night. I don't know whether I have often worked after 10. I never worked more than twice a week to 10. I always work to 9 when I can get work to do. I got 7*s.* last week. I have only one sister at home. Mother weaves. I never work through the day without stopping for dinner. I always stop an hour. I always stop half an hour for breakfast and half an hour for tea. I get 6*s.* when I only work to 6 o'clock. I only worked two nights last week to 9. I have worked a whole week to 9. I never worked a whole week to 10. I go away on Saturdays sometimes at 12 o'clock, and sometimes at 4. On Saturday I stopped to 7. I never stopped later than that on Saturday.

29. *John Booth.*—I am 11. I have worked here one year and four months. Before that I went to school. I was in the 6th class at school. I never went to a mill. (Cannot read.) I slide. (Minds a self-acting machine.) Since I have been here I have only seen one boy hurt by the machinery. I come at 6 and I go away at 6. Sometimes I stay till 9, sometimes to 7. I never worked five days running to 9. The machines stop at breakfast and dinner time; and when we work to 9 they stop at tea time. We do not all stop to 9, though the machinery goes on.

At Mr. T. B. Harding's, Card and Hackle Manufactory, Holbeck, Leeds.

30. *Mr. T. B. Harding.*—We make all kinds of combs with steel teeth for combing wools, flax, and cotton. In the work of our manufacture, children are employed in making and filling the combs; more particularly in making wooden and brass gills, cards, &c. Girls could do the filling work just as well as boys, but we do not employ any girls. Boys of 9 years of age could do much of this work, but I do not think we have any boys under 9. We should like to have some under 12 if we could get them.

31. *William Webster* (employed in making cards).—I am going 12. I come at 6 in the morning and go away at 8 at night. I have worked to 8 all this week. I go away for dinner, breakfast, and tea. I was a year at school before I went to work. I drive cards.

32. *Randolph Smith.*—I am going 11. I have been two weeks here. I was six months at Marshall's school. (Can read.) I never worked in the mill. I never worked till I came here.

33. *George Lesley.*—I am going 14. I have worked here three months. I come at 6. I go away at 8. I always stop to 8. I worked at a mill as a half-timer for eight months. (Cannot read.) I drive cards.

At Mr. Hatterley's, Spindle Manufactory, Wortley Road, Leeds.

34. *Mr. Hatterley.*—Out of about 200 hands we employ about 12 boys under 13. I believe those boys are all 12 years old. Assuming that we could easily get double the number of boys of this class, equally able to do the work, there would be this difficulty in employing the two lots:—Accuracy of work is of the greatest importance, all the work done by these boys is examined before it is passed on to the next set of hands, the work can only be examined after it is finished by the boys. Supposing two boys were concerned with each piece of work, it would be practically impossible to ascertain which of the two was responsible for any bad work that might be done, unless, indeed, we increased the number of foremen, and had

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men always looking after the boys to see how each did his work. Our regular hours are 10 per day, *i.e.*, from 6 a.m. to 5½ p.m., with one and a half hours for meals. We always close at 4 o'clock on Saturdays. We do not work overtime more than two months in the year. Our overtime is two hours per day for five days in the week, *i.e.*, to 8 o'clock. We never work overtime on Saturdays. The difficulty in the way of stopping all overtime for boys under 18 in our work would be that it would stop the men's work as well. The men take the work from the boys, and are dependent upon their work for their own work. They could not go on for an hour after the boys had ceased to work. Our work is all divided between different hands, each man being dependent upon the man or boy who works before him. The boys who work for us as a rule learn the whole trade, and become journeymen spindle makers. They begin with us at 5*s.* a week. If they worked piece work they would make 5*s.* At 14 years of age they get 4*s.* and so on up to 20, when they get 10*s.* A journeyman of 21 gets 20*s.* The average wages of a spindle maker are 24*s.*; they vary from 24*s.* to 30*s.* For the last five years, the best men have, I believe, been getting as much as 30*s.* a week for the whole year round. Men of 22 years of age are prime workmen. They begin to fall off at 50.

35. *William Briggs.*—I am going 15. I have been here four years. When I first came I cut heads for a fortnight. I then glazed for eight months. For the next three months I did various jobs. I never was at the same job for more than one day at a time. I then went to filing. I was four months at that. Then I went to straightening. Then I went to drilling. I was two months at drilling. I got 4*s.* a week at drilling. I was then shifted to a higher job; it was turning. I am still turning. Drilling was very easy work, but it stalled me. The work was the same morning and afternoon, and day after day. Now there are four women who do the drilling. Before I came here I went to a mill. I worked here for a fortnight at one mill at warp-dressing. I then had to leave because the doctor would not pass me as a whole-timer. I got 5*s.* a week when I was there. Half-timers could not be employed at that work, because it took three hours to finish a warp, and each man must finish his own warp. (Can read.) I can write. I learnt to read and write before I went to the mill. I was two or three years at school. I go to night school now. I go on Tuesdays and Fridays from 7 to 9. I have gone only one month. I have worked overtime two hours a day, except Saturdays, for about three or four months in a year since I have been here. I used to glaze; there is not much dust from glazing. No boys ever grind. I have no father. Mother and I are the only two at home. Sister lives with us but she pays for her lodgings. Mother gets 7*s.* a week, and I get 6*s.* or 7*s.* without overtime.

36. *Joseph Birkett.*—I am going 16. I have worked here for three years. I am turning now. When I first came I heated fliers at a furnace. Then I straightened. Then I went to turning. (Can read and write.) I dressed warps before I came here. I worked on the mill for two or three years. There were two of us. We worked as half-timers. We got so much for a warp, and divided the money between us. They have two short-timers there still, but no boys. I had been to school before I went to the mill. I could read before I went. I got 2*s.* and 4*s.* a week. I have three sisters and one brother at home with father and mother. I am the only one that works. I gets 4*s.* a week. When I work piecework I can get 6*s.* or 7*s.* Mother weaves. Father is a turner. He gets 18*s.* a week.

(I examined 12 boys, nine could read and three could not. Of those who could read five had been to mills.)

At Mr. W. Greenwood's, Spindle Manufactory, Gibbet Lane, Halifax.

37. *Mr. W. Greenwood.*—We make spindles for spinning machines. The shop in which we carry on our trade is the ground floor of a building, the upper floors of which are used as a worsted mill. Our shop is not under the Factory Acts. We never take any boys under 13 or 14. A boy of 12 would not do for our trade. He would not have knowledge enough. All our lads are bound apprentices at 14. Our hours of work are 10½ hours per day, except on Saturdays, when we close at 1 o'clock. If the men work to 2 we pay them overtime. We have one hour in the week less than the factory hours. The men have forced us to work short hours. We never have any overtime, except the hours from 1 to 2 on Saturday. No boys work at the grinding. All our stones have fans fitted to them.

38. *Matthew Crossley.*—I am going 20. I was 15 when I came here. I am a bound apprentice. I worked at a worsted mill at 8 years of age until I was 13. I then went on as a full-timer. I can't read so much now. I learnt to read when I went to school.

At Mr. L. Pool's, Screw Works, Sweet Street, Holbeck, Leeds.

39. *Mr. J. Poole.*—We employ about 130 hands. Of these about 30 are women, about four of these would be girls under 13. The rest of our hands are men and lads, employed in forging and finishing the screws. The screwing is done by machines worked by steam power. There are two or three little boys under 13 who attend these machines. Our regular hours are, for women, 10 hours a day. On Saturday they leave off at 1 o'clock. We generally give over altogether at 6 o'clock. Sometimes we have overtime to 8 o'clock for a month or two, when trade is very good. We now have nine screwing machines going on all night. We have an additional lot of hands, men and boys, to work these machines. Two sets work alternate weeks by night and day. We had to teach this extra set of hands. It took us six months to get all these hands into work. As soon as we have got sufficient room and additional machinery we shall employ all these hands in the day only. I do not think we should have any difficulty in employing two sets of children under 13 years of age, as in the mills, the work the little ones have to do is very simple. But we employ so few children of that age at all, that we could easily do without them if we found it inconvenient employing the two lots.

40. *James Bellhouse.*—I am going 13. I have worked here half a year. When I first came I topped nuts. I got 3*s.* a week. I now screw bolts with a hand screw. I was in the warehouse for three months; run errands and did many things. I was at Marshall's mill for a year. I was at school before I went to Marshall's. I worked in the heckling room. I only worked half time. It was bad dusty work. I got 1*s.* 10*d.* and 1*s.* 11*d.* a week. (Can read.) I come at 6 and go away at 8 at night. I have worked to 8 ever since I came. I was more tired when I worked at Marshall's than I am now. I had to keep filling holders. I only worked six hours there, I know, and went to school in the other part of the day. I am quite sure I was more tired by my work there than I am here.

41. *William Henfer.*—I am going 13. I have worked here a year and a half. I went to school before I came here. I used to work in the warehouse. I can read. I read the Bible and Testament at home. I have read a little book called "Cain and Abel." I come at 6. I go away at 6. I worked to 8 last night. It is a long while since I worked to 8 before that. I chop. I get as much as I addle. I have had my fingers cut. I was only laid up for a day and a half.

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Peacock chopped his fingers off in the hand shears. C. Crossley cut his arm in the cutting machine. He had no business there at all. He was meddling with another boy's machine.

42. *Mr. J. Poole*, continued.—It would be wrong to put a boy to any of these machines before he is 12 years old. As it is, we sometimes have to take away lads who are careless. It would be a great shame to put boys to them who are too young. No boy is allowed to touch the wheels or oil his own pulley. There is a man whose duty it is to oil the machinery and put on the belts when they get off. We have never had any accident from the wheels, or the bands, or the shafts in my time. We have guarded all the parts of the machinery which we consider dangerous.

43. *Angelina Longbottom* (about 14 years old).—I worked at Marshall's mill when I was 12 years old. I went to school when I was 7. I had learnt to read before I went to the mill. I worked in the hackling room at filling holders. It was hard, dirty work. When I was 13 mother would not let me go on. I then broke flax. I got 5*s.* a week. It was over dusty. I couldn't stand it. I then went to a woollen mill. I began to learn to piece at the woollen mill. Then I came here. I think I can get 6*s.*

44. *Mary Anne Coile.*—I am going 12. I have been here a fortnight. I got 3*s.* 9*d.* last week. I have not full work to do now. I used to work at Marshall's. I addled 1*s.* 9*d.* and 1*s.* 8*d.* there. I was nearly a year at school as a half-timer. I was going 11 when I first went to school. I learnt to read. (Cannot read ; cannot spell Leeds.)

45. *Edwin Hunter*, screw forger.—Our bellows are all worked by steam. Each man has a striker. In little shops boys blow the bellows. When the bolts are very small the blast cannot be used. If the blast was going on while the man was forging one bolt the iron and coal would be wasted.

At Mr. Bradbury's, Screw and Screw Bolt Manufactory, School Close, Leeds.

46. *Thomas Smith.*—I am 13. I shall be 14 next September. I have worked here since last November. I come at 6 in the morning. I go away at 9 at night. Sometimes I work till 10. I generally work one night a week to 10, two nights to 8, and the other two nights I leave off at 7. On Saturday I go at 4. I get 3*s.* 6*d.* weekly wages. It is not very hard work I have to do. I generally go away for dinner. I do not go for breakfast. I always stop half an hour for breakfast, and one hour for dinner, and half an hour for tea. I was a half-timer at Marshall's flax mill for three years. I can't read much. The work at Marshall's mill was hard work, and the dust made me badly. I filled holders.

(The shop in which this boy and a few others were working was very small, dark, dirty, and dilapidated.)

At Messrs. Burrell and Co.'s, Spade and Shovel Manufactory, Armley Road, Leeds.

47. *John E. Scott.*—I am going 13. I have worked here two years. I began at fenders. (Can read.) I went to school for a good bit before I came to work. I go away at 6 at night, except when we have overtime. I get 2*d.* extra for overtime to 8 o'clock. We work to 8 about two or three days in a month.

IRON SHIP-BUILDING YARDS and ENGINEERS' WORKS.

To Her Majesty's Commissioners.

Iron Ship-building Yards and Engineers' Works.

Mr. F. D. Longe.

C.

Gentlemen,

I have visited several iron ship-building yards on the Clyde, near Glasgow, at Stockton, and on the Thames near Greenwich, and beg to forward the evidence which I have taken in some of these yards, together with some evidence which I have taken in some engineers' works in London.

2. There are two classes of boys employed in these works. (1.) The apprentices, who are generally a well-educated and somewhat superior class. (2.) The riveters' assistants, who are for the most part under 14 years of age, and often uneducated and badly cared for. In all works where the putting together plate-iron constructions, such as boilers, bridges, girders, and iron ships, is carried on the riveting forms one of the principal operations ; a vast number of young boys are employed in this work. I have already noticed them in a former Report on Iron Foundries.

3. Although there are many boys of nine years old employed by riveters in the ship yards, and in the higher class of engineers' works, there are but few boys employed under 11 years of age. (Evid. 2, 4, 10, 15, 11, 13.)

4. A great objection to the employment of young boys in the ship yards is the dangerous position in which they have to work in the process of building iron ships. In other respects this employment is easy and healthy. The boys heat the rivets in a little furnace placed near the workmen, and carry the red hot rivets to the riveters. Boys seldom stay at this work beyond 14 or 15 years of age, when they become apprentices, or leave for other employments.

5. The regular hours of work in these ship yards and other works are from 6 a.m. to 6 p.m.; in many cases to 5.30 p.m. On Saturdays work generally ceases at 4 p.m. In all these works, however, the practice of working overtime for weeks and months together is very prevalent. The apprentices and riveters' boys work as long as the adult workmen. In many cases I found that the riveters' boys had been working from 6 a.m. to 8 p.m. regularly for many weeks. (Evid. 5, 7, 9, 11, 12, &c.)

I have, &c.

Francis D. Longe.

EVIDENCE.

Messrs. M. Pearson & Co., Iron Shipbuilders, Stockton.

Iron Shipbuilding Yards and Engineers' Works.

Mr. F. D. Longe.

c.

1. *Sidney Smith*, foreman of the ship yard.—The men who are chiefly employed in making iron ships are "platers" and the "riveters." Each set of riveters have two boys to heat the rivets for them. The boys are paid by the men when they are on piece-work. They are generally between 10 and 14 years of age. At 14 years of age these boys are, most of them, apprenticed to the trade. I believe nearly all these boys can read and write; they have all to write on the time-board the particulars of their day's work. We keep another account to check them. They nearly all write for themselves; the boys often write for the men.

2. *James Little*, heater for riveter.—I am going 11. I have worked here going two years. I went to school before I came here. I can read. I read the Bible and little books. I come at 6 and leave at 6. I never worked after 6. I go home to dinner. I get my breakfast here. I blowed when I first came. I get 4*s*. 6*d*. a week on time, and 6*s*. on piece. I like working on piece better than on time, because I get more wages. It is not hard work. I give my money to my mother. I have four sisters. Two of them work in the pottery.

3. *William Anderson*, boltsmith and rivet-maker.—I employ a lad as a striker. We never have boys to blow the forge fire. We have no bellows, but the fire is kept up by the blast. I have always used the blast for making the smallest bolts. There is no waste of iron or coal in using the blast. The man must mind his work, that is all. He must have one boy and work quick. If I had no blast, and had to blow my own fire, it would be very slow work.

Messrs. Brown & Co., Iron Founders, &c., Stockton.

4. *Henry Kirk*, rivet heater.—I was 11 years old last New Year's day. (N.B.—His father stated that he was 14.) I have worked here three or four months. I heat rivets. Before I came here I worked as a call-boy on Dixon's steamboat. I come at 6 o'clock, and go away at 6 in the evening. Sometimes I stop later. I have worked all night twice in my life. I was working for men who were repairing a boiler then. I work overtime sometimes, but not often. I worked a quarter of a day overtime for four days last week. That is all the overtime I have ever done.

Messrs. Rennies, Engineers, Albion Works, Blackfriars.

5. *James Morris*, apprentice pattern-maker.—I was 16 last month. I have been 17 months. I was at school till I came. I can read and write. I have learnt arithmetic. I am learning mechanical drawing, and I go to school at nights now at 8 to 10. I go twice a week. I come at 6. I have come at 5½. I have worked two or three weeks to 8. I never worked after 8. I leave at 4 o'clock on Saturdays. I leave for dinner and breakfast.

6. *Joseph Wingate*.—I am an apprentice engineer. I have been here nine months. I am 17. I was at school till I came. I come at 9, and leave at 5½. I go to King's College three times a week from 7 to 8.

7. *Mr. J. Jones*, foreman of the fitters.—We have apprentices from 14 years of age. We never take them under that age. We don't take them often under 15 or 16. Our regular hours are from 6 to 5½. We often have overtime to 8. Sometimes we have no overtime for six months, and then we work overtime for six months together. Apprentices are only bound to work 10 hours by their deed. We have one apprentice who never will work overtime. Generally speaking they work when they are asked. The apprentices only work overtime when they are working at the machines, not when they are fitting.

Messrs. Rennies' Boiler Works, Greenwich.

8. *Thomas Stephenson*, riveter's assistant.—I am 16. I gather rivets. I have worked here four years. I was errand boy at first. Before I came here I was at school. I was about six or seven years at school. I can read and write. I have learnt up to reduction in arithmetic. I come at 6. I go away at 8 at night. I never stop after 8. I always stop to 8. I have done so ever since I have been here. Master pays me my wages. I go away to breakfast for half an hour, to dinner for an hour, and for half an hour at half-past 5 for tea. On Saturdays I leave at 6 o'clock. I get 7*s*. a week.

9. *William Lafling*.—I was 14 last Tuesday. I carry rivets. I have worked here about six weeks. Before I came I worked in the boat yard. I was two years there. Before that I was at school. I was about eight years at school. I can read and write. I go to Sunday school now sometimes. I don't go regularly. I read the Bible and Testament at school. I never read the newspaper. I don't know much arithmetic. I come at 6 in the morning. I leave at 8 o'clock at night. When I was in the boat yard I worked from 6 to half-past 5, and sometimes to half-past 7. I always leave at 4 on Saturdays. I always go away for breakfast, dinner, and tea. I get 10*s*. a week.

10. *Thomas Butler*.—I am 12 next Sunday. I have worked here four or five months. I am a riveter's boy. I come at 6. I go away at half-past 8. On Thursday I worked over up to 10 o'clock. I have only once worked over to 10. I get 6*s*. a week. Before I came here I was in the boat yard. I was only a few months there. Before that I went to school. I was three or four years at school. I went regularly to school. I can read the second class book. I have no books at home. (Can read.) I never worked without going home to breakfast, dinner, and tea. I got 3*d*. extra for working to 10.

Messrs. Maudsley & Field, Engineers, Westminster Road, Lambeth.

11. *William Miller*, riveter's boy.—I am between 15 and 16. I carry rivets. I have worked here a year all but two months. Before I came I worked at Price's candle works. I was two years there. Before that I was at school. I come at 6 in the morning. I leave at 8 o'clock at night. I have worked to 8 every night since I have been here. At Price's I came at 6 and left at 6 at night. I can read and write; I have learned up to long division in arithmetic. I read when I go home. I read third class books and story books. I read the News of the World sometimes. I used to go to school at 7 o'clock at Price's. We were in school from 7 to quarter past 8; the school belonged to the works. There were 200 boys there; they were all obliged to go to school. I got 5*s*. a week. I get 8*s*. a week now. I have half an hour for breakfast, an hour for dinner, and half an hour for tea. I always go away for meals.

12. *William Collingwood*.—I am 14. I have been here since Christmas. I carry rivets. I used to

carry rivets on a railway for eight months. Before that I worked at a wood turner's. I treddled the lathe. I was four years there. I got 2*s.* 6*d.* a week when I began, and 3*s.* when I left. There was only one other boy there. I used to begin at 8 in the morning and work to 9 at night. I did this all the time. I several times worked to 12. On Saturday I worked only to 4. I now begin at 6 and leave off at 8. I have tea at half-past 5 always. I go to evening school when I can. I never went to school before I came to work. I have been to evening school for a week. I go at 8 and leave at half-past 9. I go to Sunday school. I can't read. I am learning the spelling book. I get 8*s.* a week. I have four brothers and two sisters.

13. *James Brown.*—I shall be 17 next birthday. I have worked here eight months. I carry rivets. Before I came I carried rivets for two years. Before that I was errand boy. I was at school nearly nine years. I can read and write. I have learnt up to the rule of three in arithmetic. I come at 6 in the morning and leave at 8 at night. I always leave for meals. I was errand boy at a baker's in Chancery Lane. I began at 6. I slept in the house. I generally had done work at half-past 5. I used to go out with the bread. I got 2*s.* 6*d.* a week and my food. I very seldom worked after half-past 5.

14. *Thomas Herbert.*—I am 15. I carry rivets. I have been one month here. Before I came I worked 15 months at a saw-mill. Before this I worked at a coal shed for two weeks. Before that I went to school. I was six years at school. I can read a little. I read the sixpenny books now. I never read anything else. I never read the Bible. I never read newspapers. I go to night school sometimes when I get home soon enough. I always leave at 4 on Saturdays. (Cannot read.)

Messrs. Langley's, Ship-building Yard, Deptford Green, Deptford.

15. *Patrick Manning.*—I was 11 on the 16th of last April. I blow for the riveters. I have worked here seven months. Before I came I frightened birds in a market-garden. I was three months there. Before this I went to school. I can read. I never read now. I have read Reynolds's Journal since I left school. I go to High Street church sometimes. I can write. I learnt long division when I was at school. I get 6*s.* a week; the master pays me. I come at 20 minutes past 6. I go away at half-past 5 and half-past 7. On Saturdays I generally leave at 4 o'clock. I sometimes stop to half-past 7 on Saturdays. I always go away for breakfast and dinner. When I work to half-past 7, I have half an hour for tea.

16. *William Hartican.*—I am 16. I shall be 16 on the 24th of this month. I have worked here 16 months. On Monday I leave at half-past 5. On other nights I work to half-past 7, except on Saturday, when I leave at 4. Before I came here I worked at a smith's. I was four months there. I always left at half-past 5 there. Before that I was at school. I was nine years at school. I can read and write. There are 100*s.* in 5*l.* I was doing long division when I left school. I carry rivets. I get 7*s.* a week. I have read papers and books. I have been reading Robinson Crusoe.

17. *Charles Smith.*—I was 13 last Wednesday. I have been here seven months. Before I came I worked in a boat yard. I was three months there. I generally left at half-past 5. I go away at half-past 5 now, sometimes at 6. I get 6*s.* a week. I carry rivets. I can't read. I was at school three months. I have one sister and three brothers. My sister can read. Father is a holder-up for riveters. I never go to school.

18. *Charles Bates.*—I carry rivets. I am 16 next April. I have worked here 18 months. Before I came here I went to school. I was three years at school. (Can read a little.) I have never read anything since I left school. I can write a little. I never wrote a letter. I come at 20 minutes past 6. I go away at half-past 5. I leave at half-past 8 for breakfast. I never worked without going away for breakfast, except once. I go to night school in Guildford Street. I go four times a week. There are 26 boys there, six of them come from this yard. We go at half-past 6, and leave at half-past 8. I pay nothing. I am learning reading and writing there now. I get 13*s.* a week. I am working on a mast.

19. *Samuel Pitham.*—I was 14 last Easter. I have been here three years. Before that I was a year at school. (Knows his letters only.) I go away at half-past 5 in the afternoon. I sometimes go to the night school. I have gone three days in the week. I am learning sums. They call them stractions. I worked at a boat yard before I came here. I was a year there. When I was there I left at 6 o'clock. I get 12*s.* a week. I got 6*s.* when I first came. Father is a stoker. I have two brothers and one sister.

Messrs. J. Hepworth's Iron Ship-building Yard, Cubitt's Town, Millwall.

20. *Alfred Gilbert.*—I am going on for 13. I have worked here six months. Before that I was at Dudgeon's boiler shop. I was two years and a half there. Before that I worked for about 15 months at an engineer's. I was a month or so at school. I can't read. I never go to school now. I never go to Sunday school. I am striker to a smith. I get 10*s.* a week. The master pays me. I come at 6. I go away at 5 at night. I never stop after 5. At Dudgeon's boiler shop I worked to 10 o'clock for eight weeks running. I got 7*s.* then. I got 4*d.* a day overtime. That was six months ago.

21. *Philip Serle.*—I shall be 12 the week after Christmas. I look after horses. I have been two years at school. I can read and write a little. I have read the spelling book. I have not read anything else. I begin to work at 6 o'clock and leave at 5. I was in a foundry for two months. I have got three brothers and two sisters.

22. *Richard Cakebread.*—I shall be 16 next April. I am stoker to the engine man. I have been nine months here. Before I came I worked at a candle factory. I was 18 months there. Before that I worked at a rope-yard. I was four years there. I got 2*s.* when I first began. I get 12*s.* now. I was two years at school. I learnt to read. I can read the Bible. (Cannot read, but knows his letters.) I have three brothers and one sister. Two of them can read better than me. I was nine months at a wood-chopper's before I went to the ropery. I got 1*s.* 6*d.* a week then.

Messrs. Wigram's Ship-building Yard, Blackwall.

23. *Mr. Clifford Wigram.*—We are obliged occasionally to employ the boys as well as the men in the night time. There is certain work in the dock which we can only do at low water, and this has to be done sometimes in the middle of the night. The men and boys are never employed for more than four hours at this work. The boys are paid at the same rate as the men for this work. They work the following day, but we take no notice of their coming late. The work is laying blocks at the bottom of the dock. It would not be done at night more than six times in the year. We always try to avoid this night-work by keeping the docks prepared for ships.

24. *George Carpenter*, shipwright's apprentice.—I

Iron Shipbuilding Yards and Engineers' Works.

Mr.F.D.Longe.

c.

was 15 last September. I have been apprenticed one year. I am bound for seven years by deed. Before I was apprenticed I worked as a riveter's boy. I was at that nearly a year. Before this I went to school. I was about a year at school. I can read a little. I read the Bible sometimes. I never read anything else. I go to Sunday school. I have gone regularly every Sunday for six months. I come at 6 in the summer and at daylight in the winter. I leave at 6 in the summer and at 5 in the winter. I sometimes work overtime to 8. I don't think I have worked a whole week to 8 in my life. I leave at 4 in the afternoon on one Saturday, and at 11 o'clock in the morning on the next. I always go away to breakfast at half-past 8. I have another half-hour at 11, and an hour at 1 o'clock for dinner, and another half-hour at 4 for tea.

25. *George Wilson Dobbin.*—I shall be 16 on the 19th of December. I am an apprentice shipwright. I am in my second year. I was at work about a year and a half before I came here. I was a doctor's errand boy for nine months. I was three months doing nothing. Before this I was at school. I was four years at school. I lived at South Shields then. I can read. I read Lloyd's paper and the London Journal. I read the Bible on Sunday. I never go to school now. I come at half-past 6, and go away at 5 o'clock, or a quarter past. I have worked to 8 for four nights in a week. I don't often work overtime.

26. *George Lee.*—I am 14. My birthday was on the 21st of September. I am not bound apprentice yet. I have worked here two or three months. Before I came I was at school. I was at school ever since I was 5 years old. I can read. Twice 24 are 48. I have learnt long division and multiplication. I read Lloyd's newspaper sometimes. I never read anything else. I keep up my writing. I copy out of books for practice. My father is a shipwright.

27. *Samuel Eggleton.*—I shall be 18 on the 24th of December. I have been apprenticed two years. I worked here for a year before I was apprenticed. Before that I worked at Green's. I picked up nails then. I was four years there. Before that I went to school. I was 11 when I began. I was four years at school. I can read a little. I read out of my sister's book to teach myself. It is a spelling book. I can't read the paper. I come at 6 in the morning and leave at 6 in the afternoon.

The Thames Iron Works and Ship-building Company, Blackwall.

28. *Mr. Piddington,* manager of the shipwrights.—We have no apprentice shipwrights. There are about 80 boys under 21 years of age employed by the shipwrights and joiners. All our work is done by contract. We contract with a few superior mechanics, who hire their own men and boys to do the work. The men and boys are paid according to the yard rate agreed to by the firm. The boys are all employed in the same work as the men, except the riveters' boys. They are the youngest boys. The shipwrights' and joiners' boys are none of them under 13 or 14. They do not generally begin before 14. We always object to boys being employed too young. There is no written agreement entered into with the boys. Our regular hours are from 6 a.m. to half-past 5 p.m. in summer, and from 7 a.m. to half-past 4 in the winter. In the joiners' shops the hours are the same all the year round, viz., from 6 a.m. to half-past 5 p.m.

In the Forge.

29. *Thomas Thurston.*—I am 17. I work at a mill furnace. I coal and pull up the door. I have been three years and a half here. I get 7*s.* 6*d.* a week. Before I worked at the furnace I piled scrap. I was six months at that. I have only worked here about four years and a half. I went to school before that. I can't read. I did not go to school much. I work on night and day shifts. I never work after half-past 5 when am working on the day turn.

30. *Thomas Stilton.*—I am 12 years old. I have worked a year and a half. I am an errand boy at the office. I was 18 months at school before I came to work. I can read and write. I go to night school now, four days every week. I get 6*s.* a week.

31. *Daniel Hynson.*—I attend to the donkey engine. I am 13. I have worked 18 months. I went to school before I came here. I can read. I sometimes read the newspaper now. I get 6*s.* a week. I work on night and day shifts. I come at half-past 5 in the afternoon when I am on the night shift. I leave off at 6 in the morning. I get to bed at about 7. I sleep in the day as well as I do at night.

32. *Daniel Dickson.*—I am 13. I have worked two years. I work at a ball furnace. I attend to the fire. I don't pile. Women pile. I get 1*s.* 9*d.* a day. I was errand boy at a doctor's for a year before I came here. I used to go sometimes before 9 o'clock. I worked very late then. I used to get home about 1 or 2 o'clock in the morning. I had to take medicine round to people's houses. I got 6*s.* a week. I left because I was kept up so late. My father is a furnace man. I can't read.

33. *Thomas Home.*—I am 9. I pull up the door for father. I have been to school a year and a half. I can't read. I work for my father. He is a furnace man.

LETTER FOUNDRIES in LONDON.

To Her Majesty's Commissioners.

Gentlemen,

Letter Foundries in London.

Mr.F.D.Longe.

D.

There are three large letter or type foundries in London in which there are altogether about 200 boys, between the ages of 9 and 16, employed. The majority of these boys are between the ages of 10 and 13. There are two other large manufactories of the same kind in the kingdom, and a few small foundries in London.

2. The boys are employed—(1.) In "breaking off," *i.e.*, in breaking off the superfluous lead from the type as it comes from the mould. (2.) In "setting up," *i.e.*, in arranging the types in sets for warehousing, or in "paying or taking out," *i.e.*, in making up parcels of particular letters for orders.

3. The boys take no part in the manufacture or in polishing the types. Type polishing, which is effected by rubbing the types on a stone, is an injurious employment, owing to the quantity of lead dust which is inhaled by the workmen.

4. The hours of work in one of these manufactories are from 7 a.m. to 7 p.m., with two hours for meals; in others, from 8 a.m. to 7.30 p.m., and from 8.30 a.m. to 8 p.m., with an hour and a half for meals. In none of the foundries are the boys in the habit of working overtime. One employer says, "We did have "overtime, but we have found that we can do without it." (Evid. 1.) On Saturday work ceases at 2 o'clock in summer, and at 5 o'clock in winter.

Letter Foundries in London.

Mr. F. D. Longe.

D.

5. The shops in which the boys are employed are, generally speaking, large and well built for ventilation.

6. The boys' wages vary from 2*s.* to 6*s.* per week. They are sometimes paid according to the quantity of work done, sometimes they are paid day wages. In each case they are hired by the employers.

7. I examined and questioned several boys as to their education. I found five boys who were unable to read, but most of the boys had been to school previous to their coming to work, and some of the younger boys could read well.

8. There are a considerable number of young boys, between the ages of 10 and 13, employed in machine-ruling shops. I visited one of these shops. (See Evid. 19–21.) I was informed that there were about 12 similar shops in London, and that the number of boys employed in each would average about 20. The boys' work consists merely in moving sheets of paper and laying them in heaps.

I have, &c.

FRANCIS D. LONGE.

EVIDENCE.

MESSRS. FIGGINS & CO., TYPE FOUNDERS, WEST STREET, SMITHFIELD.

Evidence.

Mr. F. D. Longe.

d.

1. *Mr. Figgins, junior.*—There are only three type foundries of any size in London. Besides these there is one in Sheffield, and one in Scotland. We have about 80 boys under 18 in our works. They begin at about 11 years of age. There are three parts of our work in which the boys are employed, in "breaking off," "setting up," and "paging or taking out." The boys generally begin with breaking off, and then go on to the other work. Those who stop do the regular men's work. Our usual hours of work are from 7 in the morning to 7 at night, with two hours for meals. On Saturday we close at 2 o'clock. We work two nights a week to 8 to make up for the two hours lost on Saturday. We very rarely indeed, have any overtime beyond these two hours. We did once work overtime; but we have found that we can do without it. We don't work overtime now once in a year. We hire and pay all the boys ourselves. Some work piece-work and some work day-work.

2. *George Jennings.*—I am getting on for 13. I break off. I have been here about eight months. I come at 7, and leave at 7 at night. I work to 8 on Wednesdays and Thursdays. On Saturdays I leave at 2 o'clock. I get my breakfast at half past 8. I have till 9 for breakfast. I have from 1 to 2 for dinner, and from 5 to half past 5 for tea. I have my meals here. I sometimes go home to dinner. I work piece-work. I get ½*d.* for 1,000 types, or 1*d.* for 8 lbs. of another kind. I only have to break off the ends. I generally make 4*s.* 6*d.* or 5*s.* a week. Before I came, I worked at a fancy box-makers. There were eight boys there besides myself. I used to make little wooden boxes. I worked there from 8 to 8. I was 9 years old when I first went there. The other boys were older than me. I was two years at school. I can read very little. I go to Sunday school. I read there. I don't read anywhere else. (Could read).

3. *William Dillworth.*—I am getting on for 12. I set up types. I have worked here nearly two years. When I first came I broke off. I have only worked twice after 8, since I have been here. Before I came, was errand boy at a flower-makers. I was there about one year and six months. I used to come at 9 and leave at 9. Sometimes I got home at 8. I never worked after 9. I was not working all the time. I was at school for nine months. I can't read. I sometimes go to night school. I leave at 2 o'clock on Saturday.

4. *John Laban.*—I am 12 next birthday. I have been here a year and three months. I break off. Before I came I went to school. I was five or six years at school. (Cannot read.) I never go to school now. I have no father. I have one brother and two sisters. We live with one another. Father was dead before I went to work.

5. *Edward Dace.*—I shall be 12 on the 16th of March. I have been about six months at work here. I break off. Before I came here I made pen-holders at Mordan's in City Road. I was there about 9 or 10 weeks. Before that I was at an ink manufactory. I was the only boy there. I was there about six months. Before that I was at school. I was at school ever since I was 2 years old. Father works here. I have six brothers and one sister. One brother lost his arm in a printing machine. I make 5*s.* or 6*s.* in the week.

MESSRS. CASLON & CO., LETTER FOUNDERS, CHISWELL STREET, FINSBURY.

6. *William Sturges.*—I was 11 on the 23rd of last November. I have been here since Easter. I set up. When I first came I broke off. I get what I earn. I generally get 5*s.* a week. I come at 8. I go away at half-past 7. I very seldom stay after half-past 7. On Saturdays I come at 5. I go away to dinner at 1 o'clock. I come back at 2. I stop at 5, for tea, to half-past. Some go away for dinner. I worked at an umbrella makers before I came. There were only two boys there. I ran on errands there. I was six months there. Before that I was at school. I was three years at school. I can read out of the Bible a little. I read at school. I have read Bow Bells at home.

7. *John Ewer.*—I shall be 12 on the 18th of next February. I set up, and page up. I have been here two years. When I first came I broke off. I get about 5*s.* I get what I earn. The master pays me. I come at 8. I go away at half-past 7. I never stayed later than that. On Saturday I leave at 5. I get my dinner here. I get it in this shop. Before I came I went to school. I was seven years at school. I can read. I have read the Bible and other books as well. I read Sunday at Home and Leisure Hour.

8. *William Perrin.*—I shall be 13 next October. I have been here a year and a half. Before I came I was errand boy at a doctor's. I went at 8 in the morning. I left off at half-past 6 at night. I break off. I come at 8. I go at half-past 7. I never stopped after that. On Saturday I leave at 5 o'clock. About two or three months in the summer, I left off at 2 o'clock on Saturdays. Before I went to the doctor's I went to school. I was at school ever since I was 3 years and a half old. I can read the Bible. I have read Cassell's Illustrated Paper.

9. *Stephen Purchase.*—I am 14 on the 18th of March. I have been here about one year and five months. I was away for three months out of it. Before came here I worked at another type foundry. There were only four boys there. I was a year there. Before that I went to school. Both my father and mother died before I went to work. I used to work from 8 to 8. I sometimes worked to 9 or 10 at night. I worked about six times to 10, and four other nights I

Letter Foundries in London.

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worked to 9. I never worked here to those hours. I get my breakfast before I come. I sometimes go home to dinner. Every day but Saturday I go home to dinner. In the winter we leave at 5 on Saturdays. In the summer we leave at 2 on Saturdays. I can't read. I have two brothers and one sister older than me.

10. *Benjamin Fernando Jones.*—I was 12 last October. I go errands and set up. I have been here four years this month. I set up when I first came. Before I came here I went to school. I made about 4*s.* or 5*s.* a week when I set up. I can read. I used to read the Bible at school. I read lesson books. I have read the Standard and sometimes the Telegraph newspapers. Father brings the paper home. I come at 8. I go away at half-past 7. I get my dinner here. I stop an hour for dinner. On Saturdays I go home at 5. In summer time I leave at 2 o'clock on Saturdays. I have no regular dinner time. In the summer I leave at 7 on Mondays and Fridays. At Christmas, Whitsuntide and Easter, we have a day or a day and a half holiday.

Messrs. B. Besley & Co., Letter Founders, Fann Street, Finsbury.

11. *Thomas Jones.*—I am getting near 10. I shall be 10 next March. I have worked here about two months. I set-up. I began with setting-up. I am paid by the quantity I do. I generally get 2*s.* a week. I never get more. I come at 8½, I go away at 8. On Mondays I leave at 7. On Saturdays I leave at 6. I have never worked later than that. I go home for dinner at 1 o'clock. I come back at 2 o'clock. Before I came here I went to school. I was five years and a half at school. I can read newspapers. I used to read the Bible. I read Bow Bells when I go home sometimes to my mother and sisters. I have a father and mother. Father is a carman.

12. *Francis Frazier.*—I was 11 last week. I set up. I have been here 11 months. I come at 8½, and I leave at 8 in the evening. On Mondays I go at 7, on Saturdays I go at 6. I always go home for my dinner at 1 o'clock. Most of the boys go home for dinner. I generally get 2*s.* 6*d.* or 3*s.* a week. The master pays me. Before I came here I went to school. Was four years and a half at school. I can read a little. I read at Sunday school. I go every Sunday to school. I have three brothers and no sisters. Two of them are younger than me.

13. *Henry Holman.*—I am going on for 12. My birthday is some day this month. I have worked here two or three years. I break-off. When I first came I broke-off. I work piece-work. I generally get 5*s.* 6*d.* When I first came I worked here three days, and went to school three days. I work under my father. Another boy did the other three days when I was away. I have two brothers and one sister. Sister does not work. My brothers don't work. Before I began to work I went to school. I was two years at school. I can read spelling books and the Testament a little. I never read anything at home. I don't go away for dinner. I eat it in this room. I never worked after 8, except once.

14. *George Aldridge.*—I am getting on for 12. I have been here for a couple of months, I break-off. I generally get 2*s.* or 3*s.* a week. I go away for dinner. Before I came I worked at Caslon's. I set up. I was two months there. Before that I went to school for about four months. The school I went to was in Golden Lane. I learnt to read the spelling book. I never read anything at home. I have two brothers and two sisters. My brother works at Hendon's pen-making shop.

15. *Francis C. Robertson.*—I am 10. I have been three months here. My birthday is in this month. I break-off. I come at half past 8. I go away at 8. On Saturday I go at 6 o'clock. I get my dinner at home. I live close by. My father is dead. I have eight brothers and sisters. Two are younger than me. Before I began work I went to school. I can't read much. I was reading a book about two dogs when I left. I can spell a little. I generally earn 5*s.* in a week, sometimes only 4*s.*

Mr. T. Plummer, Stereotyper and Printer, 2, Goldsmiths' Court, Holborn.

16. *Mr. T. Plummer.*—I employ about five boys between 14 and 18 in the stereotyping department, and about four boys of the same age in the printing department. In neither department are boys under that age of any use. I have never employed any boy under 13, except as an errand boy. Some of my boys are apprenticed by deed. The hours of work during which the boys are employed on steam printing machines are generally much longer than in places where they only use hand machines. It is necessary to keep the steam machines going to make it pay. They are often kept going from Thursday to Saturday.

17. *Charles Wells Curtis,* apprentice stereotyper. —I am turned 18. I have been apprenticed here 18 months. Before I came I was an apprenticed printer at Phillip & Barber's. I began there at about 16. I was at school before I went there. I was at school several years. I begin at 8 o'clock regularly, and leave off at 8 o'clock at night. It is 18 months since I have worked overtime. I never worked overtime at Phillip's & Barber's. My hours there were from 8 to 8.

18. *Charles Vardy.*—I am 20 years old. I have worked here three years. I am an apprentice printer. Before I came here I was at Mackintosh's, a machine printer's. My hours are from 8 to 8. When we work over I work to 10. I very seldom work over. I never worked for a week together to 10. On Saturday I leave at 5. We always have an hour to dinner. We can leave or not as we like. I always have an hour, and sometimes more. We have half an hour for tea. I was at school until I went to Mackintosh's.

Mr. F. G. Crowe's, Machine Ruler, Southampton Court, Holborn.

19. *George Whiting.*—I am 10 years old. I put paper into the machine. I have worked here seven months. I come at 8 o'clock, and leave at 8 o'clock at night. I never worked after 8. I go away at 1 o'clock for dinner. I come back at 2. I never worked on without going to dinner. I get my tea while we are not working. Before I came here I was in the first class at school. I used to do sums. I did addition and multiplication. I used to read the Bible at school. I read my little book at home now. I forget what it is about. I don't read very often. I read it to my mother. I get 3*s.* a week. I have day wages.

20. *William Wood.*—I am 11. I don't know when my birthday is. I take out. I have been here about six months. I come at 8. I go away at 8. On Saturdays I go at 7. I never worked after 8. I go away at 1 o'clock for dinner. I have an hour always. I get 2*s.* 6*d.* a week. I used to go out for water. I was at school before that for a month. I used to play about the streets. I go to night school from 8 to 9. I go on Mondays and Fridays. I pay nothing. Father is a cabman. I have two brothers and one sister.

21. *George Elliott.*—I am 10 years old. I have been here for nearly a year. I take out. I get 3*s.* a week. Before I came I went to school. I can't read. I come at 8. I go away at 8. On Saturdays I go at 6. I never worked after 8. I go away at 1 for dinner. I come back at 2. Father is dead. I have two brothers. I never go to school. I never go on Sundays.

Mr. S. Mordan's Pencil Manufactory, City Road, Finsbury.

Letter Foundries in London.

Mr.F.D.Longe.

d.

22. *Mr. S. Mordan.*—Out of about 300 hands we have about 45 boys between 12 and 20. Most of these boys are apprenticed by deed to different trades. Some are apprentice lock makers, others are apprentice pencil makers. Our lads are generally our workmen's sons. They are never apprenticed before 14. They are apprenticed to the firm. The hours of work are from 6 to 6 in summer, and from 8 to 8 in the winter, with two hours out of that time for meals. I do not think the boys ever work overtime. We very seldom have any overtime. On Saturdays we leave off at 2 o'clock. There is no addition to the time of work on the other days of the week to make up for Saturday. The hands don't work 60 hours a week regularly.

23. *John Jelks*, apprentice, silversmith.—I am 18 next birthday. I have been apprenticed three years. I come at half past 8. I go away at 8 at night. I never work after 8. On Saturday I leave at 2 o'clock. I go away for dinner on all days, except Saturdays. Before I came here I was at school, till I was 14. I am not a very good scholar. I can write and read.

24. *John Neil.*—I am in my 20th year. I have been an apprentice four years. Before I came I was at a perfumer's. I was two years and a half there. I made violet powder. There were three other boys there. Before that I was at a printer's. I was at a machine ruler's when I was about 12 or 13 years old. There were 60 other boys with me. Our hours there were from 8 to 8. Every week we worked some hours overtime. We worked to 9 or 10 two or three days out of each week. Before that I was at a lithograph printer's. I was about three months there. Before that I was at a glass cutter's. I ground glass in the shop. I was only a month or two there. Before that I was at an eating-house keeper's. I washed up plates. I was about 11 when I went there. I was three months there. I worked from half-past 7 to 8. I always left at 8. I was at school for four years before that. I could not read when I went to work. I am a Sunday school teacher now.

25. *William Ward.*—I am 16 on the 24th of next January. I have been apprenticed since last May as a silversmith. I have been here three years. I come at half-past 8. I go away at 8. I never work after 8. I am paid day wages. On Saturday I leave at 2 o'clock. Before I came I worked at a watchmaker's. I worked from 7 to 7. I was two years there. I used to work to 7 on Saturdays there as on the other days. Before this I worked at another watchmaker's. I was hardly 10 years when I went there. I worked then from half-past 7 to 8. I worked the same time on Saturday. We never worked after 8. I was nine months there. Before that I was at school since I was 4 years old. I could read and write and knew arithmetic when I left.

The COPPER WORKS in SOUTH WALES.

To Her Majesty's Commissioners.

Gentlemen,

Copper Works in South Wales.

Mr.F.D.Longe.

E.

In the town of Swansea and at Port Talbot in Glamorganshire there are six large works in which copper is rolled into sheets and rods. These rolling mills are very similar to those in the iron trade. A large portion of the hands employed are youths and boys of 12 years of age and upwards. In the same district there are copper smelting works, some of which are connected with the rolling mills. In these works few young hands are employed. Copper smelting is a more unhealthy employment than that of the blast furnaces of the iron trade, owing to the presence of so much arsenic, sulphur, and other noxious elements in the ore. It is necessary to free the metal from these impurities before it is ready for rolling. This is effected in the copper works by the successive processes of calcining, roasting, and refining. In all these employments the hands employed are adults (Evid. 21).

Age at which boys are taken into these works.

2. The boys employed in the rolling mills generally begin at about the age of 12. In one case I was informed that the firm objected to the employment of any boys under the age of 14, but this rule was not strictly carried out (Evid. 16).

Employment of boys and youths.

3. The younger hands are employed (1) in picking up or bundling scraps from the shears, (2) in moving plates and drying them after being pickled, and (3) in assisting at the rolls. These employments are very similar to those of the same class of hands in the iron works. There is no work in which very young boys are exclusively employed, such as the door drawers and staff carriers in the iron works.

Hours of work.

4. The work in these mills is, for the most part, carried on by day and night shifts, as in the iron trade, the hands changing between 5 and 6 o'clock in the morning and evening. In one or two cases, however, I found one set only employed, their hours of work being from 6 a.m. to 8 p.m. (Evid. 22). One boy of twelve had worked for four days together from 6 a.m. to 9 p.m. (Evid. 11). Another boy of 14 years of age had worked to 12 o'clock every other day in the week previous to my visit, and was working the same hours that week (Evid. 18). The hours of work in the warehouses are very irregular. Two sets are not employed; one boy of 16 years of age had often worked through the night, sometimes two nights in the week (Evid. 17).

Meal times.

5. The meal times are observed more regularly than in the iron works. The "heats" are more easily regulated. The rolls are stopped for breakfast, and for dinner during the day, and for half an hour at 10 o'clock during the night.

State of education.

6. The boys employed in these works had generally been at work before they came to the trade. Many had been some years in the tin works, others had been assistants to riveters, masons, &c. I examined or questioned 29 boys of ages varying from 12 to 15, and found that 14 could either read or professed themselves able to do so, and that 15 could not. A few said they could read Welsh a little, though they had not learnt to read English.

7. The boys are hired by the employers. Their wages range from 6*s.* a week upwards.

I have, &c.

Francis D. Longe.

EVIDENCE.

Messrs. Williams, Foster, & Co., Morfa Copper Works, Swansea.

Copper Works in South Wales.

Mr. F. D. Longe.

e.

Rolling Mills.

1. *John Isaacson*, rollers' assistant.—I am going 14. I have worked here about a year. I raise copper at the rolls. I work on night shifts and day shifts. I never was hurt. I never staid away from work for illness. I was a year and a half at school before I came to work. I can't read English. I can read Welsh a bit. I learn at Sunday school. I get my dinner at half-past 12. I always stop an hour for dinner. I always stop for half an hour at 9 for breakfast. I get my tea when I go home. On the night shift I come at half-past 4. I leave at 6 o'clock in the morning. I get my supper in the middle of the night. I don't stop during the night at any regular time for my supper.

2. *John Colbrook.*—I am 14. I have worked here about 5 months. I dry plates with the picklers. Before I came here I worked in other copper works I was there 18 months. Before that I carried rivets I was six months at that. Before that I was at school till I was 10. I work on both shifts. On Saturday I leave at 5. Sometimes I leave at 1 o'clock on Saturday. I get 6*s.* 4*d.* a week. I have weekly wages. I can read and write.

3. *William Lewis.*—I am just past my 14th. I have worked here three years. When I first came I carried scraps. Now I am at the rolls. I get 6*s.* 6*d.* a week. I got 5*s.* when I first came. Before I came here I opened plates at another place. I was a year there. Before that I was at school. I was two years at school. I can't read. I work on both shifts. I stop at 1 o'clock for dinner. I always have an hour. I always stop for breakfast at 9. I have half an hour.

4. *Peter Davis.*—I am 14. I have worked here six months. I bundle scrap. I work on both shifts. I come at half-past 4 at night and leave at 6 in the morning when I am on the night shift. We begin to work about 5. I get 6*s.* a week. I worked in some oil works a year before I came here. Before that I worked in some copper works. I was for two years attending masons. Before that I worked in a brickyard. I was only two months at that. Before that I was at school. I was three years at school. I can't read.

5. *John Davis.*—I am going 13. I have worked here 7 months. I carry scrap. Before I came here I was at school. I can't read. I get 5*s.* a week.

6. *James Rees.*—I am 14. I raise at the rolls. I have worked here three years. Before that I went to school. I can read. 6 times 7 are 42. (Spells *railroad*, &c.)

7. *George Brown.*—I am 14. My birthday was in last August. I have worked here 4 years. When I first came I carried scrap. I pull out from the roll. I am paid by the piece. The roller pays me. I worked with the masons before I came here. I was one year with them. Before that I was at school about a year. I can't read. I always get my breakfast here. I get it as I can. I generally stop about half an hour. The engine stops at 1 o'clock for dinner, and goes on at two o'clock. All the rolls stop working then. I never saw anybody burnt badly. I never went to the doctor for anything.

8. *David Davis.*—I am 10. My birthday is next Thursday. I shall be 11 next Thursday. I raise sometimes, and sometimes I carry scraps. I have worked here four months. Before I came I was at school. I can't read very well. Father is a bargeman. I have three sisters and four brothers. I go away at 5 o'clock when I work in the day. When I work at night I leave at 6.

9. *William Williams.*—I am going on my 13th. I raise plates at the rolls. I have worked here more than a year. Before that I washed the copper. Before I came here I was at Jenkins' tin works. I branned. I was there half a year. Before that I opened plates at a tin works. I was two years there. Before that I went to school. I can't read English. I can read Welsh a bit.

Messrs. Vivian & Co.'s, Hafod Copper Works, Swansea.

10. *Isaac Lloyd.*—I am going on for 14. I have worked here about 3 years. When I first came I picked up scrap from the shears; now I dry sheets after pickling. I am working on the night turn; I have just begun. I come at 5 o'clock; I shall go home about 1 o'clock; I think I shall have finished my work about that time. I am working by the piece. I have a certain quantity of sheets to dry to-night before I go away. I was in the Landore tin works before I came here. I branned tin there. I was one year there. Before that I did nothing. I cannot read. My father is dead; he has been dead six years. He was dead before I went to work. I have one brother and four sisters at home. I get 7*s.* a week. Last Saturday I began at 5 in the morning and finished about 4 in the afternoon. I did my two turns in that time. I work harder when I have to do two turns. I only stop half an hour during the time. I can always do two turns by 5 o'clock on Saturday.

11. *Edward Russell.*—I am going 13. I have worked here a year and a half. I wash. When I first came I handed sheets to the shearer. I am on the night turn to-night. I shall give over about 1 o'clock. When I worked at the shears, I used to work to 9 o'clock for four days running. There are not two shifts at the shears. I have to stay away sometimes when I am bad. I have a sore throat now. I went to the doctor; he gave me something to drink. I have no father Father has been dead seven years. I have four sisters and three brothers. There is only one younger than me. I was half a year at school. I can read a bit. I get 6*s.* a week.

12. *James Martin.*—I am 14. I am errand boy to the storekeeper. I have worked here two years. I was in a warehouse one year. Before that I was at school. I can read and write. (Spells well.)

13. *Thomas Davis.*—I am 14. I have worked going on for two years. I carry copper to the picklers. I work on the night and day turn. Last Saturday I began at about 6 o'clock in the morning; I left off at a quarter to 5. I never stop later than that on Saturdays. I did two turns last Saturday. I shall stop at 1 o'clock to-night. When I am on the night turn I have generally done my work at 1 o'clock or a quarter past. I shall stop about half an hour for supper at 9. Before I came I was in some tin works. I branned. I was three years there. Before that I was at school. I was but two years at school. I can read a little bit of English. I can read Welsh. I learn at Sunday school. I read the Welsh Bible at home sometimes.

14. *Thomas Rees.*—I am 16. I have worked 5 or 6 months. I worked at some tin works before that. I greased. I was four months there. Before this I did nothing. I went to school a bit. I was about three months at school. I was at home the best of the time. I have five brothers and sisters.

15. *Philip Stevens.*—I am 13. I have worked here about 12 months. Before I came here I drove barges on the canal. I never went to school. I drive up. I get 6*s.* a week. I began at 5 o'clock this evening. I expect to get home about 2 o'clock.

Messrs. Grenfell and Co.'s, Middle Bank Copper Mills, Swansea.

16. *Mr. George Nancarrow*, manager of the works.—We have for many years attempted to carry out a rule that no boys should enter the works under 14 years of age, and that they should be able to read and write when they come. It is the desire of the firm that this rule should be strictly adhered to, but in practice we have not been able to carry it out thoroughly. There are no boys, however, in our works under 12, if there are any under 13. There are three day schools supported by the firm. The majority of the boys at these works have been educated at these schools. The younger boys are generally employed at pickling and moving plates. Most of them are only employed during the day. We generally work the rolls by double shifts. When we only work in the day, our hours are from 6 to 6. We never work to 8. If we wanted to work longer we should put in another shift. In the smelting works there are a few little boys employed in wheeling coals. Our rolls are always stopped at breakfast time for half an hour, and from 1 to 2 for dinner. On Saturday, the hands on the day turn work another turn in the evening, beginning at about 4 and working to about 9 or 10. They are never in the works after 12 on Saturday night. There are no small rolls used in the mills about here.

Warehouse.

17. *William Davis.*—I was 16 last January. I work at the warehouse. I have worked here four years, or nearly five years. When I came first I worked at pickling. I get 3*s.* a week. I was at school before that. I went to the day school. I can read and write. (Spells well.) I come at 6. As a rule I leave at 6. There are never two shifts in the warehouse. I sometimes work overtime. I never worked a whole week to 8. I have worked two nights in the week through the whole night. I have worked through the night more than 40 times since I have been here. There are three other boys in the warehouse. I am the youngest. When I was pickling my hours were from 6 to 6. There were always double shifts at that work.

In the Rolling Mill.

18. *James Hughes.*—I am 14. I hold up at the bolt mill. When I first came I cleaned sheets. I get 7*s.* a week. I got 5*s.* when I first came. Before I came here I worked at Williams and Foster's. I swept up. I was six months there. Before that I was a school. I can read a little. (Cannot spell. *railroad*—does not know how much 6 times 7 are.) I go to night-school now. I go four times a week. I pay 3*d.* a week. I am going to work to 12 to night. I am working two turns to-day. There were two other boys working with me. There is no night shift at the bolt roll. I worked last night and Tuesday night to 12. Last week I worked to 12 every other day. They never have two shifts at the bolt mill. There are four men and three boys at the bolt roll.

19. *Robert John Price.*—I am going on my 16th. I have worked here four years. Before I came I was at school. I went to Mr. Grenfell's school. I work behind the metal roll. I work on day and night shift alternate weeks. I get 4*s.* a week. I always stop for dinner. The roll always stops from 1 to 2. It also stops at breakfast time from 9 to half-past 9. In the night time it stops at 10 to half-past 10. It does not stop again in the night. We stop about a quarter of an hour after each heat. I can read a little. I can read the third book. I read the Bible at Sunday school. I never read anything else. I never read a newspaper.

20. *Rees Davis.*—I am 15. I worked three years at the Middle Bank works before I came here. I carried materials for the master. I pickle now. I come at half-past 6 and I leave at 20 minutes to 6 at night. When I am on the night shift I begin at 6 o'clock, and I finish about half-past 4 or 5 o'clock in the morning. I never stop after 6. I was five years at school before I came. I can read. I go to Sunday school now. I never go to night school. (Cannot spell *railroad;* does not know how much 6 times 7 are.) I forget all that now.

Mr. C. Lambert's, Copper Works, Port Tennant, Swansea.

21. *Mr. David Owen*, manager of the smelting works.—There are no boys employed in the smelting department, or in working or refining the copper. There are a few boys employed by the masons who repair the furnaces. The most unwholesome part of the work is the calcining process. The Cornwall copper ore is the worst. It has more arsenic and sulphur in it. These impurities are all burnt out of the copper before it is ready for rolling; *i.e.* before it goes into the mill furnaces where the boys are.

22. *Mr. Morgan Thomas*, manager of the mill.—The youngest boys in the works are employed in pickling and sorting sheets. There are no boys employed in putting up furnace doors, as in iron works; the furnace men do this work themselves, We always stop all the rolls at dinner time. Our heats are more easily managed than in the iron works. In times of good trade we work two shifts; but when trade is dull we sometimes work with one set only, and their hours are from 6 in the morning to 8 at night. I have never known of any case where a man has had to leave the work because it did not agree with him. All the sulphur and arsenic is drawn off before the metal comes into the mills.

Rolling Mill.

23. *John Audry.*—I was 16 last week. I have worked four years and a half. I work a furnace now. When I first came I worked with the picklers. I was a year and a half at that. Then I raised plates at the rolls. I get 15*s.* a week now. I begin at half-past 6 in the morning and leave off at 5 at night when I am on the day turn. I have a regular time for meals. I have from half-past 8 to 9 for breakfast, and from 1 to 2 for dinner. The machinery always stops for dinner.

24. *David Hopkins.*—I am going 11. My birthday is in next March. I have worked here one month. I carry sheets for the picklers. I was six years at school before I came. I can't read. I stop for dinner at 1. I have an hour.

25. *Edward Evans.*—I am 14. I have worked here four months. Before I came here I worked with the boiler makers. I carried rivets. I was five months there. Before that I did nothing. I can't read.

26. *David Lewis.*—I am going on for 16. I have worked here three months. Before that I worked on a coal bank. I was two years there. Before that I carried rivets for boiler makers. I was three months there. Before that I worked with the masons. I was only a fortnight with them. I was six years at school. I can read. I pickle now. I work on night turn as well as day turn. I always stop from 1 to 2 for dinner when I am on the day turn.

N.B. I questioned seven boys and found that five could read and two could not.

Hand-loom Carpet Trade in Dewsbury, &c.

Mr.F.D.Longe.

F.

The HAND-LOOM CARPET TRADE in the Neighbourhood of DEWSBURY, in the WEST RIDING of YORKSHIRE.

To Her Majesty's Commissioners.

Gentlemen,

General state of the trade.

1. In the town of Dewsbury and the neighbouring parishes, the manufacture of carpets by hand-looms is still carried on to a considerable extent, and it appears that notwithstanding the increase of the power-loom carpet trade, the hand-loom trade is improving. During the last 14 years this trade has undergone great depression. In 1831, there were 3,400 hand-loom carpet weavers in England and Scotland; at that time a good workman in the Dewsbury district could earn from 24*s.* to 30*s.* per week throughout the year. In 1852, their earnings fell to about half this rate. Since 1856, the trade has been improving. There are now about 2,300 weavers in the trade, and the price which the carpets fetch affords about 1*l.* a week wages to the weaver. (Evid. 5.)

Employment of "winders."

2. The weavers employ children or women to wind the worsted on their bobbins. When children are employed there are about two children to every three looms, according to some of my informants; but, upon visiting different shops I found very great differences in the number of winders employed.

Ages of the winders.

3. Children are employed at a very early age at this work. They are for the most part boys between 8 and 13 years of age. In many cases they are the sons or brothers of the weavers. It is not uncommon for boys under 8 years of age to be employed. (Evid. 3.) The work can be done either by children or women. In one shop I visited, I found women winding for six looms, and earning 7*s.* or 8*s.* a week. (Evid. 11.)

Hours of work.

4. The ordinary hours of work for a hand-loom weaver in this district are from 6 a.m. to 7 p.m., in some shops to 8 p.m. The work is very laborious, and these hours could not be exceeded. (Evid. 1, 2.) There seems to be no regularity as to the hours of work for the winders. They do not generally come so early as the weavers, and are able to finish their work so as to leave the shop two hours sooner. (Evid. 4, 7.)

Meal times.

5. There are no regular times of stopping work for meals. (Evid. 8.) The winders have about half an hour for dinner. Their meals are taken in the shops in many cases.

Nature of employment.

6. The operation of winding the worsted yarn is extremely simple and easily learned. One employer says that "a boy can learn it in a day" (1). Care is requisite to prevent the yarn being twisted or broken. When the children are too young, or careless, the weavers are kept back in their own work. (Evid. 9, 10.) It would naturally require practice to enable a child to wind fast enough to earn much. (Evid. 11.)

Place of work.

7. The atmosphere of many of these shops was most unwholesome from the want of ventilation and cleaning. The process of weaving fills the air with a minute dust. In most of these shops the space from floor to ceiling is filled up with the looms.

Hiring and wages.

8. The winders are all hired and paid by the weavers. In some of the small shops the earnings of the children are very small. A boy of 9 years old, who was winding for two looms, only made 2*s.* or 3*s.* in a fortnight. (Evid. 3.) In another shop, however, two brothers, one of 9 and the other 12 years old, who were working as half-timers, earned 2*s.* 6*d.* a week between them. (Evid. 12.) The weavers are not always engaged on the same kind of carpets. In some works they are able to afford a higher wage to their winders than in others. One informant expressed his opinion that the average earnings of weavers were not above 15*s.* a week, including the wages they paid to their winders. (Evid. 7.)

Some of these shops under the Factories Acts.

9. A few of these shops are so connected with mills, in which steam machinery is in work, as to come within the operation of the Factories Acts. In these shops the children are employed on the half-time system. (Evid. 7, 11.) There is no difficulty in getting half-timers when the men have regular work, and are able to pay a sufficient wage. (Evid. 11.) Some of the employers, as well as the men, are averse to having half-timers, when they can avoid it. When the hand-loom shops are near their mill, they go to some expense in blocking up doors, &c., so as to prevent their being included with the mill under the Factories Acts.

Hand-loom blanket manufactories.

10. I also visited a few hand-loom blanket shops in the same neighbourhood. Although there are supposed to be about 500 blanket hand-looms in the district, the owners have very little work for them. Blanket weaving by hand-looms is very slow and laborious work, and is gradually yielding to the power-loom manufacture. Boys of 9 or 10 years of age are sometimes employed to wind the worsted yarn, as in the carpet shops, but the work is chiefly done by women in their own homes.

Hand-loom linen weaving.

11. The manufacture of coarse kinds of linen goods still supplies some intermittent employment to hand-loom weavers in the town and neighbourhood of Barnsley. The looms are in the houses of the weavers, generally in the cellars. The winding is done by the wife or the family of the weaver. Although there are said to be about 1,000 hand-looms in Barnsley, I gathered from a few visits I paid to the weavers' houses, that their trade is in such a moribund state, like that of the hand-loom blanket weavers, that evidence as to the condition of the few children occasionally employed in it would not be called for.

I have, &c.

Francis D. Longe.

EVIDENCE.

At Mr. C. Fox's, Carpet Manufactory, Dewsbury.

Evidence.

Mr.F.D.Longe.

f.

Mr. T. B. Fox.—We have a mill in which we spin worsted yarn with steam machinery. This part of our premises is under the Factories Acts. We have no half-timers there. Besides the rooms under the Factories Acts, we have seven rooms in which carpets are made by hand-loom weavers. These rooms are

not under the Act. We have about 60 looms working in these rooms. The weavers employ children to wind for them. There is generally a winder to each weaver; sometimes one winder supplies two weavers. There is one weaver to each loom, except for the four or five broad looms, on which two weavers are employed at the same time. Each weaver employs his own winder and pays him so much per piece. The winder's work is to wind the yarn from the hank on to the bobbins as the weaver empties them. It is easy work. A boy can learn it in a day. The weaver generally employs his own son. The boys stand as they work. They have to move about, to take the bobbins backwards and forwards from the weavers. At one place the weavers have to wind for themselves because the shop is under the Factory Act, and the weavers cannot get boys to do it, they cannot get boys above 13 to do it. I cannot get two to work half days at it. A boy of 13 would want about 4*s.* a week. A carpet weaver could not afford to pay that sum. Their own wages do not average more than 38*s.* or 39*s.* in a fortnight. Many men cannot finish a piece in less than three weeks. Our hours in the carpet shops are from 6 to 8. The men work piece-work. The children do not come until about 8, and they go away at 5 in the evening. A law preventing children from working before 6 in the morning or after 6 at night would not hurt us. The men never work after 8.

2. *Mr. John Room*, hand-loom weaver, Dewsbury.—There are about six places now in Dewsbury where there are hand-loom carpet weavers. There are generally about two winders to every three looms. There are no boys weaving under 15 years of age, I should think. The master pays the apprentices from 4*d.* to 6*d.* per yard, and then deducts 2*d.* or 3*d.* in the shilling when the piece is done. The carpet would sell for about 2*s.* or 3*s.* per yard. As far as the winding is concerned, the weaver could do as well with two children as with one. Children earn on the average 2*s.* or 2*s.* 6*d.* per piece. They would not earn more than 2*s.* 6*d.* if they were winding for two looms. The general hours of hand-loom weavers are 6 to 7. I have worked from 6 to 8, but that is hard work, and as much as a man can do.

At Mr. J. Armstrong's, Carpet Manufactory, Heckmondwick.

3. *Charles Heywood*, worsted winder.—I am just turned 9. I have been here one month. I was two years winding at a place before I came here. I have been to school on Sundays. I get sometimes 2*s.* 6*d.* and sometimes 3*s.* for a fill in a fortnight. I wind for two looms. I come at 8 or 9 in the morning. I never come before 7. I go away sometimes at 4 and sometimes at 6, or 7, or 8. I have never stopped to 9. I get my breakfast here. I don't stop long for breakfast. I don't play. I get my dinner here at 12½ or 1 o'clock. I generally have half an hour for dinner. My father lives a mile and a half off. I have a mother, two brothers, and two sisters. All work but one. He is about 4 years old. He goes to school. (Cannot read.) It is not hard work. I never go out of the shop during the day to play.

4. *Walter Willey.*—I am going 12. I have worked three years. I have never been to school. I come at 8, after I have had my breakfast. My father works here. I work for him. I bring his breakfast in the morning. I go home to dinner at 12 with my father. I go home to tea and bring father's tea here. I sometimes have finished my work at 6. I do not always stop so long as my father and brother. They can work about two hours after I have gone. Sometimes I go at 12 and don't come back till half-past 1. No winders have ever done before 5 o'clock. I never went to school. I can't read. I have six brothers and sisters. All work but mother.

5. *Mr. John Antey*, carpet manufacturer, Heckmondwick.—I was a carpet weaver myself some years back. Our trade has been in a very bad way for some years. In 1851 there were 3,400 carpet weavers in England and Scotland. I could then make from 24*s.* to 30*s.* per week throughout the year. In 1852 I only made 13*s.* 8d. per week throughout the year. I then gave it up. At the present time the number of weavers is about 2,300. The trade has been improving since 1856. Our trade was injured by the application of steam power in the manufacture of Brussels and Kidderminster carpets. A man can make 20*s.* a week now, if he has work.

Messrs. Birch and Sons', Worsted Spinners and Carpet Weavers, Heckmondwick.

6. *Mr. John Bates.*—We have 60 looms at work. There is one winder for two looms. We have 25 winders who work under the half-time system of the Factory Act. This system works very well with them, except that there is some difficulty in getting the children. The work does not require any learning. There are two sisters working there who get 1*s.* 9*d.* each, or 3*s.* 6*d.* in the fortnight. We get the two children for the same price as one. There is no other work for children under 13 years of age just about us.

At Messrs. Firth's, Carpet Manufactory, Flush Mills, Heckmondwick.

7. *James Crabtree*, foreman of carpet shop.—We have had two shops under the Factory Act for the last seven years. The winders in these shops are most of them half-timers. The weavers in our shops are now earning 20*s.* a week. I should say that the average earnings of weavers, bad and good, would not be above 15*s.* a week. We have two shops not under the Act. There are 28 looms in these shops. We do not carry out the half-time system there. There are twelve children there; eight of them are under 13, and four are above. I do not think that the winders in the hand-loom shops ought to be under the half-time system, so much as the children who are employed in mills, where they have to attend machines. Wherever steam-power is employed the persons who work at the machines must keep constantly at work. But in hand-loom shops the men do not work incessantly themselves, nor are the children required to be always working. In fact they are not working two-thirds of the time that they are in the rooms. There is not always work for them to do. Sometimes quick children will fill the bobbins, so that they will last the men for an hour, and they will have nothing to do all that time. A half-time winder, winding for one loom, can do as much work in a morning as will last a man for the whole afternoon. I mean to say that there is no call for the half-time system. The objections to the system are that the earnings of a child only working half a day are so trifling that parents will not send their children to the carpet shops, though there is no other work in the neighbourhood for them. We have had two or three cases of weavers leaving this shop because they could not get winders.

At Mr. W. Armytage's, Carpet Manufactory, Smithies Bridge Mills, Heckmondwick.

8. *Mr. W. Armytage.*—I have about 60 or 70 looms. They are in shops detached from the mill. I object to the Factory system, because I object to being subjected to the interference of the inspectors. I do not think there would be a great difficulty in carrying out the half-time system with the winders. The

Hand-loom Carpet Trade in Dewsbury, &c.

Mr. F. D. Longe.

f.

men generally employ their own children. They are generally boys of ages between 8 and 13. There are not many mills near where half-timers are employed. The mills are chiefly blanket, carpet, and woollen mills. The regular hours in carpet shops are from 6 a.m. to 7 p.m. There are no regular times for meals. The only question would be whether the children could be got to come for half the wages they now get, viz., 3*s.* a week. The average earnings of carpet weavers are 15*s.* per week. That does not include the money he pays for winding. The doors of carpet shops are always locked up at 7 p.m.

9. *Thomas McDowell*, carpet weaver.—I have two boys of my own who wind for me, and another. One is 11 years old. He has worked two years. The other is 9, he has worked about six months. He is not a good winder yet. It is very common for boys to have been winding for a year, and yet not have learnt to wind properly. Bad winders break the worsted, and thus cause a loss to the master.

10. *Thomas Humphreys*, carpet weaver.—I have a boy of 13 years of age, who has wound for me four years, and he is not a good winder yet. I have spent many weeks in teaching boys. I have to get off my loom from time to time to go and help them. Teaching boys takes three days away from the time we want to finish a piece in.

At Messrs. Fairfax Kelly, and Son's, Carpet Manufactory, Heckmondwick.

11. *Mr. F. Kelly.*—I have about 230 looms. The rooms in which these looms are are under the Factory Act. The winders are some under 13, and some above that age. There is no difficulty in getting the half-timers, but there is a difficulty in getting children above 13 to wind. There are about 60 wheels to the 230 looms. Some of the wheels are worked by women, who wind for six looms at a time. About 30 or 40 winders are under 18 years of age. About 12 or 14 would be half-timers. A woman who works for six looms can earn 7*s.* or 8*s.* a week. The girls and boys between 13 and 18 earn about 5*s.* a week. It would require two years learning before a winder could earn as much as that. They generally begin at about 10 years of age. They earn 2*s.* then as half-timers. The men can pay them as much as that. We have had to send six or eight home who were too little to do the work well. They had all passed the doctor. They were about 9 years old. We have another shop, which is not under the Act. There are 14 winders there, all under 13. They work whole days. The men in our shops under the Act are continually changing. In the other shop they do not change. I think it would be better to allow children to work as winders whole time at 11 years of age. The winding is easier work to learn than mule spinning. Piecing is easy work, and only requires about a month's learning.

12. *William Thornhill*, winder for Dutch carpet weavers.—I am going 12. My brother Joseph is going 9. We wind for six looms. We do half-days each. We have both been six months at it. I was winding in London for nearly three months. We earn about 2*s.* 6*d.* each.

13. *John Barker.*—I am going 14. I have worked four years here. I worked three years as a half-timer for my father. After a month I was able to wind without wanting my father to help me.

At Messrs. Atkinson and Co.'s, Blanket Manufactory, Hill House, Heckmondwick.

14. *Mr. J. Atkinson.*—In the manufacture of blankets the hand looms are gradually giving way to the power looms. A boy must be at least 15 years old and a big strong lad to be of any use at a blanket loom. There are, I should say, about 500 blanket hand looms in this neighbourhood besides the power looms. If the bobbins are not filled at the mill, it would require about one boy to each loom to wind, or one woman to every two looms. Boys ought to be about 9 or 10 years old. I have no boys at all to wind; I get the worsted spun on my bobbins at the mill. When I cannot get the bobbins filed at the mill I employ two or three women to wind. Our hours of work do not average 10½ per day through the week. The work is very heavy, they could not do it. In the last six months only three men have ever exceeded 10½ hours in a day. One of them once worked all night.

15. *William Frudd*, manager to Messrs. Taylor, linen manufacturers, Barnsley.—I should think that there are still more than 1,000 hand looms in Barnsley. The hand-loom weavers' shops are generally the cellars of their little houses. In some there are only two looms, in others as many as six; never more than that. The weavers generally have children to wind for them. There would be one winder to every two looms. Weavers' wives also wind for them. Children begin to wind at 8 years old. A man working 12 hours would keep a child winding for six or seven hours. The winding is very easy work. There is not much work now for the hand-loom weavers, owing to the increase in the number of power looms in the mills. What work they get is generally given them by the large mill-owners. The manufacturers use their power looms for making the better kinds of goods, and get the commoner goods made by the hand-loom weavers. It would pay them to make the cheaper kind of goods with the power looms if they had more of them. Probably in a few years there will be few or no hand looms left.

16. *William Rushworth*, hand-loom weaver, Becket Square, Barnsley.—I have six looms in my shop. I have not work for more than two or three. The yarn is wound either by children or women. I get my yarn wound for me by a woman who lives near. Our trade is in a bad way.

REPORT on HEALD KNITTING, by Mr. H. W. LORD.

To Her Majesty's Commissioners.

Heald Knitting.

Mr. H. W. Lord.

G.

Gentlemen,

1. A heald is an open knitted framework made of cotton, and fitted to looms to raise the threads of the warp in the process of weaving. It consists of a double line of loops united by a series of small rings, each of which joins one of the upper to the corresponding lower loop. Although comparatively few persons—the number being reckoned rather by hundreds than by thousands—are employed in making healds, the conditions of labour are in many respects so exceptional as to require separate notice.

2. The manufacture exists alike in towns and in villages, being often mere cottage work, wherever weaving mills are to be found. Healds are not unfrequently made in the mills where they are used, and also on premises where steam-power is used for that purpose only, and where nothing else is made. In

Heald Knitting.

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G.

both cases the employment is treated as one under the Factory Acts; but much is still done by hand, and under circumstances not unlike those of the fustian cutters, who formed the subject of a special report to you last year.

3. Such portions of the accompanying evidence as relate to village work has been obtained in Mottram, a village in Longdendale, near Ashton-under-Lyne. From the last-mentioned town, and also from Stockport, Oldham, and Manchester, I have received my information respecting heald knitting in more populous places.

Age.

4. In country places, and in some towns, children begin to "reach" as young as 7, and even 6; "little "fingers are best" (No. 2). Mr. Coles informed me of one case in which a child had begun at 5 years old. (No. 9.) Even in towns many have begun before they were 8.

Sex.

5. Children of both sexes "reach," but boys seldom continue after 8 or 9 years old. The knitter and the topper or bottomer are almost always females.

Number.

6. At one cottage in Mottram 17 had been working at one time, but the usual number is 7 or 8. In towns more are collected together; often about 20. In one place at Ashton 90 were said to have been working in good times. Nothing was being done at any of the places visited by me, as the whole business was at a stand-still for want of cotton.

Hiring.

7. The knitter is paid by the piece, and hires and pays the little children who "reach" for her. The topper or bottomer is not usually hired by the knitter, but by the master for whom both work.

Wages

8. A reacher earns from 1*s.* to 1*s.* 6*d.* a week, and a bottomer about 2*s.*

State of place of work.

9. In country places the chief room in a small cottage is generally the only workroom, "every stick, "except just the shafts and seats they use," being cleared out. They are of course very crowded; the close heat in summer, and the cold draughts and changes of temperature in winter, being equally objectionable.

10. Some of the larger and newer workrooms in the towns are clean and tolerably airy; other rooms are small and unwholesome. The dirty state of one or two which I visited was caused solely by neglect, the work itself being particularly cleanly.

Nature of employment.

11. The "reacher," a child of 6 or 8 years old, and the knitter, usually a girl of 16 or upwards, but occasionally as young as 12, work together at a knitting frame about 3 feet in height and 5 feet in length, and consisting merely of a light lathe resting on wooden supports at each end. The two sit on opposite sides of the frame—the reacher on a low stool, the knitter on a chair. The object of the work is to form the lower (or upper) line of loops on to the single line which the bottomer (or topper) has before made separate. The reacher has to hold up in turn one after another of these lower loops to the knitter, who passes a bobbin full of thread through it to form the upper loop and the ring of thread which couples them.

12. The bottomer, who, though sometimes only 8, is generally 12 years old or more, stands at a similar frame alone, and makes the single line of loops from the yarn, using a bobbin of thread for netting.

Hours of work.

13. Many of these little children have actually worked 14 hours a day as a regular thing. "I used often "to go to sleep at the work," said one of 13, who had worked from 6 years of age for 14 hours a day, so long as there was work to do; "then the knitter would hit me to wake me up" (No. 4). Another, who, however, had not begun till 10 years old, "had often and often to work from 6 a.m. to 8 and 9 p.m.," though the usual time was from 6 a.m. to 6 p.m. (No. 1). This took place in country districts; but even in Ashton and Stockport, where some are said to begin work at 6 or 7 years old, the ordinary hours are from 6 a.m. to 6.30, or 7 p.m.; and from the statement of Mr. Morris (No. 7), regarding the great pressure at uncertain times, it is quite clear that Mr. Coles is correct in asserting that in towns also, "in busy seasons, when they are pressed to finish by a fixed time, great enormities are "practised in the way of long hours" (No. 9).

Meal hours.

14. In the matter of meal-times also there is much to be regretted, especially in country work. Children of so tender an age as I have described have either to get their breakfast before they come, and carry a bit of bread and butter after dinner back for tea, or eat their meal at home as fast as they can, and hurry back to work. In towns they seem to have the dinner hour allowed, but in some cases, they work till 6.30 p.m. without tea, that plan having been adopted in preference to working till 7 p.m. and having time allowed for tea. Where the regular day's work was 14 hours, an hour was allowed for dinner and half an hour for tea.

Physical condition.

15. I have no doubt whatever, in spite of assertions to the contrary, that the witness Shaw (No. 1) states no more than the truth in saying that "many who have to work long hours at a very young age are," as she stated herself to be, "very much crooked, both legs and shoulders." She, it is true, stated, in answer to a question from me, that she had always had very bad health; but, on the other hand, she had not begun until so late, comparatively speaking, as 10 years old, and, though sadly deformed at the time of my seeing her, did not appear particularly weakly. The witness Garlick also (No. 3), mentioning the case of her grand-daughter, "whose back is quite crooked," attributed that result solely to her "being so young "at long hours." And the opinion of Mr. Pomfret, a medical gentleman whom I consulted on the subject, is quite consistent with these statements, for, although he has "never watched a particular case "so as to trace deformity or disease directly to their particular causes, he is thoroughly convinced that "it must lead to the very worst consequences" (No. 8).* It should be observed that the above mentioned are cases happening in a village on the hill-side, in a bold, open country,—cases, moreover, to which my attention was especially directed by the vicar of the parish as specimens, in his opinion, of the pernicious effects of the system, and not isolated instances, the work both in town and country being, as I have before remarked, at so low an ebb that, by merely visiting the places of work, I could have obtained no information whatever.

Moral condition.

16. "They haven't much time for school, of course." "My grand-daughter . . . is 11 years old. . . . "She can read a bit now, but never had any schooling till she went to union school" (Nos. 2, 3). So in Oldham I learned that the little children were "very poor and had no learning; many cannot read "at all" (No. 6 and *see* No. 10). The evil of the existence of such a trade, under no provisions for

* Mr. Pomfret speaks also of "drawing in," another process supplementary to heald knitting, as being open to the same abuse. It consists in drawing the threads of the warp through the eyes of the heald.—H. W. L.

Heald Knitters.

Mr. H. W. Lord.

education or reasonable hours of labour, is forcibly shown in the case mentioned by Mr. Coles, the Sub-Inspector of Factories (No. 9). His attention had, in one of his official visits to a cotton mill, been attracted to a girl who seemed "very small to have been passed as a full timer." On inquiry he learned that she had begun to work at 5 years old from 7 a.m. to p.m. at heald knitting; she could not read, had never been to any day school, and only occasionally to Sunday school. This was in a rural district. In such places this trade would seem to take the children even from the infant school.

I am, Gentlemen,

Your obedient Servant,

H. W. Lord.

EVIDENCE.

MOTTRAM.

Mottram.

g.

The Rev. J. H. Jones, the vicar of Mottram, to whom I am indebted for the interviews I had with the 4 following witnesses, informed me that I might rely upon the accounts given by them, and from his own experience generally confirmed their statements.

At the time of my visit there was no work for the heald-knitters, and there had been none for some time. The witness Wilkinson, however, sent for a neighbour's child, who had "reached" for her, and on the return of her own daughter, who was a knitter, from the sewing school, the two showed me the whole process, so as to illustrate and confirm the description given me by the witness Shaw.

1. *Hannah Shaw.*—I am 18 years old. Eight years ago I began to work at heald-knitting; many begin younger than I did. I know of two children, a brother and sister, who began before they were 7; they are now in a mill. I don't know whether they are crooked at all; I am very much, both my legs and my shoulders. Many are, who have to work long hours at it very young.

I often and often had to work from 6 a.m. to 8 and 9 p.m. The usual time, when I worked, was from 6 a.m. to 6 p.m. I wasn't with any relation but used to go from home to work. I had breakfast there before going to work; came home for about an hour for dinner, and took some bread and butter back with me for tea.

The master or mistress generally get two or three of their neighbours' children to come in and work. It isn't done so much at the knitter's own home, though the only work-room is just the chief room in a cottage. There are not often more than seven or eight together in one place.

The knitting-frame is about 5 feet long. The little child, who is called a "reacher," sits on a low stool on one side of the frame, opposite the knitter, who is a big girl or woman. The knitter sits in a chair on the other side of the frame, and passes a threaded bobbin through the open loop, which the child holds up to her, so as to lap it over the waxed thread; that is "coupling." They shift their seats from time to time along from the one end of the frame to the other, as the loops at the upper end get coupled. If they don't move often enough, the child will have to reach too far to its left side—for of course the knitter's reach is much longer than the child's—and so they get their shoulders up. A "reacher" gets paid 1*s.* 3*d.* or 1*s.* 6*d.* a week. The knitter is paid by what she does.

At about 12 or 14 a child gets put to "bottoming;" that is done by one alone, and generally on the further side of the room. The bottomer gets 2*s.* a week. She makes the loops which the knitter afterwards couples. That is even more tiring than the reaching, for it is all standing work: standing in one position and stooping over a board between two shafts with the bobbin to lap the thread round. The yarn is brought in shanks from the mill, and the bottomers begin on it. It was that work that made my father take me away from heald-knitting. He thought my legs were growing crooked from the standing. It was my own doing that I ever went to it. I always had very bad health, and it seemed a less unhealthy work than in factory.

The mistress for whom I worked had a daughter, who was very much deformed by the work she did in heald-knitting, so every one said.

2. *Mrs. Wilkinson.*—In good times I have had as many as 17 girls knitting healds and bottoming, counting reachers and all. We clear the room of every stick except just the shafts and seats they use. This little reacher is 6 years old. Little fingers are best; they don't get in the way of the bobbin, when they hold the loop up. It's nice work and does no harm. My daughter's spine was bowed long before we put her to the work. She didn't begin till she was 13; it was because she couldn't go to mill that she took to knitting, it is so much easier. They haven't much time for school of course. We teach them what we can, while they work. This little one we taught her letters, and to count. They have to count out loud for the knitter to tell the number of loops she has coupled.

They make healds by machinery now, but those are not like hand-made healds; the machine can't ease the knot as the hand does. At the mill down yonder they tried patent healds and machine-made healds, but they had to come back to us after all.

It is always done like this in cottages. There would be a many agate, four or five cottages in most of the villages about, if the mills had work now.

3. *Ann Garlick.*—My grand-daughter, Mary Mills, began before she was 6 years old to "reach" for a heald-knitter. She used to work 12 and 14 hours a day, as often 14 as 12, for 1*s.* 3*d.* a week. She used to come home for breakfast, dinner, and tea; always ate them as fast as she could, and went back again. She is 11 years old now. Her back is quite crooked; one of her shoulders up. That was done by being so young at long hours. She is now in Ashton Union house. I tried to get her out for you to see, but the governor wasn't in, so I couldn't. She can read a bit now, but never had any schooling till she went to Union school.

I have lived all my life in Mottram and Broadbottom. There's not a quarter of the work there was for heald-knitters; still you'll find them everywhere, all up and down, at it, when the mills are full, although they knit healds by machine, and one machine is said to do the work of nine knitters.

4. *Harriett Fagan.*—I am 13 years old. Began to be a reacher at 6 years old. Used to work 14 hours a day regularly, but had an hour for dinner and half an hour for tea out of that. Worked for Mrs. Hall. She gave me 1*s.* 6*d.* a week. There were one or two besides me there. I used often to go to sleep at the work; then the knitter would hit me to wake me up. She never hurt me much. At 8 years old I was a "bottomer," and earned 2*s.*

ASHTON-UNDER-LYNE.

Heald Knitters. Mr. H.W. Lord. Ashton-under-Lyne. 8.

5. *Mrs. H. Williams.*—When times were good we have had as many as 30 knitters working here, besides giving out a deal to be done at home: each knitter has her reacher and her topper or bottomer, so there would be 90 or more. That was only two or three years since.

There are three or four more places like ours in the town, only not so large. There are places at Stockport too. Our hours are from 6 a.m. to 7 p.m.; that is, to 6½ p.m., for they take their half hour for tea at home, instead of stopping the work, and so get away earlier. We never keep them later. Sometimes they may take some home with them, where two or three live together, but they never stay here.

The reachers begin at 6 or 7 years old. Working all day long doesn't hurt them. I began at 7 years old, and worked all night sometimes. That was at home for my father. It did me no harm.

Ours are nice large rooms. In the smaller places it is worse for them. I believe they work them longer in Mottram than they do anywhere in Ashton.

There are much fewer hand-knitters than there used to be. The patent or machine-made healds are quite as good as the hand-made, but the steam power would be too costly in a place like ours. There are still, however, many mills where they do not make their own healds. We make a great many also for foreign places. Counting cottages and shops, and all, there would still be a large number of persons employed at heald-knitting in different places, if trade were to revive.

OLDHAM.

Oldham.

6. *At Mr. Wolstencroft's* I obtained the following information from a man, whom I saw here in Mr. Wolstencroft's absence. I forgot to ask his name:—

"There are many healds made by hand in all the towns about, and will be, for the hand-knitted healds last longer, and some manufacturers will have no others. I have worked at Bury and Stockport, and Manchester too some years back, and know about most of the places. Some work both by hand and by machine: some few only by machine, but many of the mills make their own. When they use machines out of the mills they are still under the Act, I think. They keep factory hours, so far as I know, but certainly I never heard of or saw any inspector, where I have been, though they made them by machine.

"The machine just supplies the place of the topper and reacher. The knitter has still to couple by hand. They are girls of 15 and upwards who knit at the machine. The reachers often begin as young as 7 and 8, even in the towns, and some at 6 years old They will work from 6 a.m. till 6 p.m., with meal times. If they stay till 8 p.m., they have seldom come much before 8 a.m."

Mr. Wolstencroft's niece confirmed this statement, and also told me that the little children were very poor and had no learning. Many could not read at all.

MANCHESTER.

Manchester.

7. *Mr. Morris.*—I don't think factory regulations could be applied to us, because our work comes in so irregularly. I should be glad enough to be under the Act, if my work could go on, but I am sure it couldn't. There is no working stock with us; it is, and always must be, all to order. You see, each different kind of cloth requires a different kind of reed and gear; so until the manufacturer has his orders from his customer, he can't tell us what he wants; besides which it fluctuates very much; not in seasons, but one week with another. I have been full of work one week, and had nothing in the next. Everything, too, is wanted in a hurry; for instance, yesterday morning an order came in at 11 to be completed by 5 p.m., we delivered part then, and shall send the rest at 4 p.m. to-day. The knitters are paid by the piece. They hire and pay their own reachers. We have nothing to do with them. We reckon 5 persons to 2 frames, for one topper will keep two frames supplied, and each frame has a reacher and a knitter. They have the reacher younger in country places than in towns, but I dare say they will begin before 8 years old in towns often. There will still be several hundred persons employed in making healds by hand throughout the cotton manufacturing district. In Manchester there are about four employers. You may say they will employ 75 to 80 hands altogether. In some towns, Ashton and Stockport, for example, there are more. The work is given out there very much. One or two of the leading men there will have each of them 90 or 100 hands, in and out working for them.

8. Extract of Letter from Henry L. Pomfret, Esq., Certifying Surgeon, &c., Hollingworth, near Manchester.

I do not think there is anything injurious in the occupation itself of heald-knitting, but I believe it is the custom to employ children at a very tender age, before they are 6 years old, and the very fact that they may and frequently do employ them from 6 and 7 in a morning until 7 and 8 at night, set on a stool with their arms stretched out, and without any stated time for meals, is quite sufficient to call for legislative interference.

I have never watched any particular case so as to trace deformity or disease directly to this particular cause, but am thoroughly convinced it must lead to the very worst consequences.

"Drawing-in," which is drawing the threads of the warp through the eyes of the healds, is also open to the same abuse, being generally done in the cottages.

9. *R. W. Coles, Esq.*, sub-inspector of factories, Manchester.—I think from all I hear that heald-knitters require regulation more than fustian cutters do. The power-workers are under the Factory Acts, but there is really much more reason why the hand-workers should be under restriction, for they employ much younger children, and work them, as it is, much longer, and in small rooms. In the places with which I am acquainted, where healds are made by power, they have rooms of a tolerable size, and girls of 15 or 16, not younger, to work.

That trade suffers especially from having a number of small middlemen, who take out work from the larger employers, and have perhaps four or five girls and children in a small cottage, working hours which the others would be ashamed to work. The wives of tradesmen, in a small way of business, take work out in that way, and have heald-knitters in an upper room working for them. I know of one over the shop of a druggist in a neighbouring town. In busy seasons, when they are pressed to finish by a fixed time, great enormities are practised in the way of long hours.

I noticed a little girl at a mill I was inspecting at Failsworth the other day. She struck me as being very small to have been passed as a full timer, so I inquired of her, and learnt that she had begun at 5 years of age to "reach" for a heald-knitter in the neighbourhood. She told me she usually worked at that age from 7 a.m. to 9 p.m., some interval being allowed for breakfast and dinner, but none for tea. She could neither read nor write, and the only schooling she had had was through an occasional visit to Sunday school. She said that there had been about a dozen other girls of that age and upwards working with her.

Heald Knitting.

Mr. H.W.Lord.

Stockport.

g.

STOCKPORT.

10. *At St. Thomas Day School for Girls* I found 10 or 12 who had, until the general stoppage of the cotton mills, been employed in making healds. Their ages varied from 8 to 13. Some had begun to "reach" as young as 7, one at 6 years old, and had been knitters at 12. They stated their hours of work to have been from 6.30 or 7 a.m. to 6, 7, or 8 p.m., and occasionally till 9 p.m. Their earnings were generally 1*s.* 6*d.* a week. One had worked twice in the week from 6.30 a.m. to 8.30. p.m., and received 1*s.* for the week's work. Some of them had been working where several others of about the same age were employed; others had "reached" for a neighbour who had only one or two to work with her. There was nothing in the appearance or these children, or in the accounts given by themselves or their schoolmistress to indicate to an unprofessional inquirer that their health had been injured by their work.

The mistress stated that all these girls were very backward, and in the lowest classes.

The TOBACCO MANUFACTURE in GLASGOW, LONDON, and LEEDS.

To Her Majesty's Commissioners.

Gentlemen,

The Tobacco Manufacture.

Mr.F.D.Longe.

H.

A great number of young boys are employed in the manufacture of tobacco, especially in making roll or pigtail. The process of making roll tobacco is called spinning. For every spinner there are three children employed In Glasgow, where this manufacture is carried on to a greater extent than in any other town, there are about 700 boys, of ages varying from 8 to 13, employed in the spinning shops. Besides the children employed in the spinning branch, a considerable number are employed in packing cut tobacco in other parts of the kingdom, and in making "bunches," that is, preparing the tobacco leaves for cigar makers. The total number of children employed in the Glasgow shops, at the time of my visit in 1864, was 655.

2. The boys employed by the spinners are taken from the poorest class. In Glasgow, until late years, "tobacco boy" and "street ragamuffin" were synonymous terms. Their habits and character, however, have been considerably improved by the tobacco boys' school, which has been established about two years, and is supported by the manufacturers in the city.

Hours of work.

3. The regular hours of work in the spinning shops are not so often exceeded as in many other trades. In Glasgow the regular hours are from 6.30 a.m. to 6 p.m., with two hours deducted for breakfast and dinner; overtime to 8 occurs occasionally, but only for two or three weeks in the year. At Leeds the spinners begin to work about 6½ or 7 a.m. and seldom work beyond 7 p.m. In London work commences at 8 a.m. and the boys generally get away about 7 p.m. In some shops, however, boys have been kept to 10 p.m. for a whole week.

4. The work of the children employed in the tobacco manufactories is very light and simple, and is equally suited for girls as for boys. Girls are employed in the spinning shops at Leeds and Newcastle. The first operation they are put to, is that of turning the wheel for the spinner; no skill or strength is required for this work. The other children are employed in stripping or preparing the tobacco leaves for the spinner, or in "pointing" or placing them on the table ready for his hand. The stripping is sometimes done by women. In the spinning shops at Glasgow, the tables at which the men work are surrounded by a number of small boxes or hutches about three feet square, which each contain, buried in tobacco leaves, a dirty little half-clothed boy, who is engaged from morning to night in separating the leaves, pulling out the stalks, &c.

5. The children are generally hired by the men. In Glasgow their wages are very low, the majority getting from 1*s.* 3*d.* to 2*s.* 6*d.* a week. The maximum wage earned by any of these boys is 3*s.* 6*d.* or 4*s.* In London a pointer sometimes makes 10*s.* a week. (See Evid. 13.) The lowest wages are 2*s.* 6*d.* At Messrs. Taddy's the boys are hired and paid by the firm. (See Evid. 30.)

6. The Glasgow manufacturers have for some time applied themselves to the improvement of the moral and educational condition of the boys employed in their works. The tobacco boys' school is open from a quarter past 7 to 9 o'clock every evening. It does not appear, however, that the average attendance has ever represented so much as one half of the boys employed, notwithstanding the exertions of the employers, and the prizes and other inducements offered.

The following returns, kindly forwarded to me by the Messrs. Tod, show the ages and educational conditions of these boys in July 1864, after the night school had been established for two years.

Under 11 Years of Age.	Above 11 years of Age.	Can read only.	Can read and write only.	Can read, write, and cypher.	Cannot read, write, or cypher.	Total.
269	386	310	46	81	218	655

I am, &c.

Francis D. Longe.

EVIDENCE.

Messrs. S. Mitchell & Son's, Tobacco Manufacturers, 51, St. Andrew's Street, Glasgow.

1. *Mr. Duncan McMillan*, managing clerk.—I believe there are more hands employed in our manufactory than in any other tobacco manufactory in the city. In our works there are 40 spinners employed, and each spinner employs three boys. The tobacco works here are principally engaged in the manufacture of pigtail or roll tobacco, and the men and boys are employed in spinning or rolling and preparing the leaves. The youngest boy turns the wheel, the second boy strips the leaf, and the third spreads or points the leaf on the tools for the spinner. There are no girls at all employed in our shops. There would be 120 boys altogether. Some of them would be as young as 10; very few over 13. There are plenty of boys to be got. Our regular hours are from 6½ in the morning to 6 p.m. We seldom work after 6, only two or three times a year, and then we never work after 8.

2. *David Logan*, spinner's boy.—I am 9 years old. I have worked half a year. I twist for James Tod. I get 1*s.* 3*d.* a week. I have been to school. I went to a school in Chalmers Street. I can read the tenpenny books. I don't go to school now. I go sometimes on Sunday. I come at 6½. I go away at 6. I go home at 2 to dinner. I come back at 3. I go away at 9 for breakfast. I have an hour for breakfast.

3. *William Logan*, errand boy.—I am 12 years old. I have worked here 4 years. I get 3*s.* 6*d.* a week. I was pointer for 3 years. I have never been to school except for a month about. I can read sixpenny books. I begin to work at 8, and go away at 6. I run messages. I never stop after half-past 7. I have generally done my work at 6.

4. *William Still*, manager of spinning department.—The spinners' boys are all hired by the men. Their wages run from 1*s.* 3*d.* to 3*s.* 6*d.* The pointers get the highest wages. The strippers and turners average 9 years of age. The pointers average 11 or 12 years of age.

Tobacco Manufacturers' School, Old Wynd, Glasgow.

5. *Mr John Gorril.*—There are not more than 800 boys employed in the tobacco trade in Glasgow. I should say there were about 700 in the shops now. This school has been established and managed by the employers. They nearly all encourage and support the school. The children pay 1*d.* a week. All the children who attend are boys employed in the tobacco works during the day. School begins at a quarter past seven, and lasts till 9. There were about 300 boys in average attendance during the winter months. The boys are decidedly not so brisk and fresh to learn and attend as if they had not been at work before they came to school, and if the teacher does not interest them, or the room is close, they soon get heavy and sleepy. The children are the very poorest class in the city.

Messrs. Hodge & Co's., Tobacco Manufacturers, 6, Argyle Street, Glasgow.

6. *Mr. Hodge.*—I think that the factory system ought to be extended to our trade. It would be a benefit to the children, and I do not think that it would be at all impracticable. I think that girls might be employed as well as boys. There might be a slight difficulty in getting the double number of children, but I do not think that there would be any difficulty after a short time.

Messrs. James Wadsworth & Co's., Tobacco Manufacturers, Lady Lane, Leeds.

7. *William Kenyon*, a boy employed by a twist maker.—I was 10 last Christmas. I turn tobacco. I come at 7. I go away at 6½ at night. I have stopped to 7 or 8. I never stopped to 8 for more than two days together. I sometimes leave off at 3½ or 4 in the afternoon. I have half-an-hour at 8 o'clock for breakfast, and an hour at 12 for dinner, and half an hour at 4 o'clock for tea. (Reads well.) I was two years at the parish church school. I get 2*s.* a week. I only work for one man. It is not hard work turning.

Messrs. Jackson & Co's, Tobacco Manufactory, Lady Lane, Leeds.

8. *Mr. Jackson.*—The girls under 13 employed in my works are hired and paid by the men for whom they work. These men are spinners, who make the pigtail tobacco. It is only in that department in our trade that young children are employed. Boys are sometimes used for the same work. Many men prefer girls. The work is very simple. I do not see that there would be any difficulty in carrying out the half-time system of the factories with respect to their girls. I think, however, it is very probable that the men would not take the trouble of getting the two children required, but would get one over age. A spinner must have three assistants. There is nothing in this work that requires nightwork. As to the rule that no children or young persons should be employed after 6 o'clock, we have about six youths whom we should want to employ after that time occasionally. Such a rule would be inconvenient at first. There are not many children employed in the tobacco trade at all. I do not suppose there are more than than 400 spinners in the whole of England.

9. *C. H. Harpham*, cutter's assistant.—I am going 15. I have worked one year here. I used to work at Wadsworth's. I began there at 9 years old. I was a spinner there. I can't read. I got 2*s.* 6*d.* a week when I first began to work. There were 7 of us at home then. Father was a cloth dresser. I get 4*s.* now. I come at 6½ on all days except on Saturday, when I come at 6 o'clock. I go away at about 7 in the evening. Sometimes I stay till 8, once or twice a week. I never worked later than 8½. When we have a break-down with the engine we work to 8½. It is very seldom.

10. *Edward Whinhem*, foreman of spinners.—We begin work at 7 in the morning and give over at 7 at night. The children never work after 7. They always have half an hour for breakfast at 8 o'clock, and one hour for dinner at 12, and half an hour for tea at 4.30. I believe this work is considered particularly healthful for children. They earn from 2*s.* to 6*s.* or 7*s.*

11. *Catharine Molloy*, spinner's assistant.—I am 13 next midsummer fair. I do not think I have worked a year. I can't read. I never went to school. I have no brothers or sisters. Father works at the pit. I come at 7 and go away at 7. I never stop after 7. I turn the wheel. It is not hard work. I am not tired when I go home. It is very easy work. I could do it the first day I came. I got 2*s.* a week when I first came.

The Tobacco Manufacture.

Mr. F. D. Longe.

H.

12. *Eliza Liversedge*, spinner's assistant.—I am going 14. I only began last Saturday. I get 2*s.* 6*d.* week. I worked four months at Wilkinson's flax mill. I went as a full timer. I got 4*s.* 3*d.* a week. I left because it did not agree with me. I doffed. (Can't read.) I never went to work before I was 13 years old.

Messrs. T. Brankstone & Co's., Tobacco Manufacturers, 8, Shoe Maker Lane, Doctors Commons, London.

13. *John Osborne*, foreman of spinners.—There are on the average four boys employed to each table. The youngest turns the wheel. He gets 3*s.* a week. He is generally 10 years old when he begins. The boys ages, taking them all together, would average 12 years. Our regular hours are from 8 in the morning to 7 at night. The shop is never open before 8. The spinners work by piece work, and pay their boys. They get as much as 2*l.* 10*s.* a week after paying their boys, some weeks. They stop from 1 to 2 for dinner. The men and boys dine in this room. Some of them go home. They stop again again at 4½ for half-an-hour for tea. Some of the pointers get 10*s.* a week. The turning requires no practice. The stripping does require practice.

14. *James Bone*, spinner's boy.—I strip and point and pack, as I'm wanted. I am getting on for 14. I have worked here about one year and a half. I never worked before. I can't read. I was not a year at school. I have one brother and three sisters. I get 4*s.* 6*d.* a week. I come at 8 in the morning. I generally begin to work at about a quarter to 9. I give over at 7. On Saturdays we leave off at 2 o'clock. I have the same pay on Saturdays. I stop an hour, and sometimes more than an hour, for dinner. We stop at a quarter to 1. I stop again at 4½ for half-an-hour. I go home to dinner. I get my tea here. I have never had the doctor in my life. I have been to Sunday school, but I don't go now.

15. *James Treacher.*—I am past 12. I have worked here about two years. I point. I get 4*s.* a week. I have been two or three months at school. I can't read. I learnt to read a little at school. I was not at work before I came here. I go home at 7 at night. I never stay after 7. I have three brothers and three sisters. I have lost my father. My father used to work here. I have two brothers in this trade. I always get my dinner in their shop.

16. *Richard Harris.*—I am getting on for 9. I work for Mr. Diffy (an old man). I get 2*s.* 6*d.* a week. I have been to school. I can read (can read newspaper well). I was about four or five months at school. I have only just come to work here.

Messrs. Huxley & Co's., Tobacco Manufacturers, 12 & 13, Whitechapel Road, London.

17. *Mr. Clarke*, proprietor.—There are two departments in our manufactory in which we employ children. We employ about 30 girls in moulding tobacco, *i.e.*, in making ounce or half-ounce packages of cut tobacco. In the spinning shop about 20 boys are employed but not by the firm; we contract with a man to make our roll tobacco and he finds the hands. The boys employed in the spinning shop are probably the lowest class to be found in the neighbourhood. It is only lately that I have taken girls instead of boys to pack tobacco, I prefer the girls. We pay them weekly wages, they begin at 2*s.* 6*d.* and get up to 4*s.* Their regular hours are from 8½ in the morning to 6; but they scarcely ever work beyond 5 o'clock. All our girls stop with us until they get too big for the wages we give.

Packing Room.

18. *Margaret Swanblack.*—I am going on for 12. I have worked about eight months. I come at 8½. I go away sometimes at 5, sometimes at half-past 5, and sometimes at 6. I have stopped. Once I stopped to 8. We all stopped to 8 then. It was only once since I have been here. I get my dinner at 1. I stop to 2. Some go home for dinner; I dine here. I don't stop for tea, I get my tea when I get home. I go to night-school on Tuesdays and Thursdays. I go to the school in Buck's Row. There are about eight girls go with me from this shop. School is from 7 to 9. I am learning to read. I can't read yet. I was about a month at school before I came to work I get 2*s.* 6*d.* a week. I have no father. I have three brothers and two sisters; they all work but one. I have packed 20 lbs. this morning in ounce packets.

19. *Jane Cotton.*—I am going on for 11. I have been three months here. I can read a little (cannot read). I am learning at Buck's Row. I never went to school before I came. I get 2*s.* 6*d.* a week. I have two brothers and four sisters. My father is a waiter. Three of us work.

20. *Eliza Cotton.*—I am 14 on the 11th of next February. I have not worked a year yet. I can read a little. Before I came here I went out to nurse the baby. I never went to school till I came here. I got 2*s.* 8*d.* a week for nursing. I go to school now on four nights in the week. I go to Buck's Row. We pay nothing. I am learning to read the Testament. I go there at 7 and leave at 9. I pack about 60 lbs. in the day. I go away generally about 4 or 5 in the afternoon. I have stopped sometimes to 8. I never stopped more than one night in the week to 8. I may have stopped 20 times altogether to 8.

21. *Sarah Doden.*—I am 14 next March. I have worked here two years and two months. We all begin and leave off at the same time. Once only I stopped to 12. I have twice stopped to 10. We never stopped to 8 more than twice a week. I go away for dinner. We have an hour for dinner. We never work on without stopping for dinner.

22. *James Mortimer*, errand boy.—I am 12. I have worked here four or five months. I worked at a hatter's before that. I got 2*s.* 6*d.* at the hatter's. Before that I worked at a tobacco spinner's at Snow Hill. There were five boys in the spinning room there. I left because the shop was going to be pulled down. I was four months there. Before that I was a bunch maker at a cigar maker's. I was seven weeks there. I got 1*s.* 6*d.* a week. I was 11 years old when I was there. I was three years at school. I was 8 when I first went. I paid nothing. It was a charity school. Father is a foreman of scavengers. I have three brothers and one sister. Three of them don't work. I begin at 8. I always began at 8 at all these places. I go away now at different times, sometimes at 4½, sometimes at 6½. I have once stopped to 8. I never stopped beyond that. I used to stop every night to 9 at the hatter's. I stopped to 8 at bunch making every night. We used to work to half-past 7 at the spinner's, except on Saturday when we gave over at half-past 6. At the hatter's we worked as long on Saturdays as other days.

Spinning Room.

23. *George Glover.*—I am getting on for 11. I have worked about a year. I come at 8. On Saturday I come at 7. I go away at 7. I have stopped to 10. I worked to 10 every day in the week except Saturday, for one week. I never worked to 10 for more than two weeks. It was four months back when I worked to 10. We have often worked to 8. We don't now. We don't have so long for our dinner. We have only half-an-hour now. I generally go away at 7 now. on Saturdays we leave at 3 or 4. I have been to school over a year. I can't read much. I get 3*s.* a week. Before I came here I went to school. I used to read Testament at school. I never go now. I have been to Sunday school. I live in Hackney Road.

My father is dead. I have one sister and two brothers.

24. *Daniel Desmond.*—I am getting on for 14. (Reads well.) I have worked six months. I was all the time at school before that. My father is a bricklayer's labourer. I have two brothers and one sister, all younger than me. I went to school at George Yard. It was a ragged school.

25. *James Paris.*—I am getting on for 10. I have been here one year and five months. I turned when I first came. I got 2*s.* 2*d.* I get 2*s.* 6*d.* now. I come at 8. I generally go away at 7. One week I worked to 10. I never worked more than one week to 10.

26. *Henry Barlow.*—I am getting on for my 14th year. I have been here 11 months. Before that I worked at a confectioner's in the Borough. There were about 12 men and boys there. There we began at 7 in the morning and worked to 10 at night. We worked the same hours on Saturdays. I got 2*s.* 6*d.* a week and 3*s.* I used to make peppermint lozenges. I was a month there. I left because they gave us so many holidays; they were always sending me home because they had no work.

[I examined nine boys, and found only one boy who could read, all but three confessed themselves unable to read.]

Messrs. Schiff & Brothers', 16, Great Alie Street, Goodman's Fields, London.

27. *Jacob Moxley.*—I am not 14 yet. I make pickwicks. I have been here three years and seven months. When I first came I made bunches. I come at 8 o'clock. I leave at 6 o'clock in the evening. I have stopped to 7, never later. I go away for dinner. All the men and boys leave for dinner. I get 4*s.* a week now. I have left school four years. I can read a little, a very little. I went to a free school in Bell Lane. I was there about two years. I never learnt arithmetic.

28. *Morris Garrod.*—I am 16. I have been seven years here. I began as call boy. Then I made bunches. I got 2*s.* a week. I generally leave at 6. I don't go to school now. (Can read a little.) I have never been to school since I have been to work. I never go on the Sabbath. I get 12*s.* and 13*s.* a week now.

29. *Abraham Myers.*—I came to England about two years ago. We use used to live in Austria. I am getting on for 14. I have worked here ever since I came to London. I was six years in school in Austria. I was five years old when I first went. We were obliged to go at six years old. I used to be at school every day from 8 to 7, with one hour at 12 for dinner. I learnt reading, writing, and arithmetic. I can read and write in German. I can't read English yet, except a little. I am learning. I go at night to Wood Street. Father pays 1*s.* a month for three of us. I get 4*s.* and 4*s.* 6*d.* a week. I have two brothers and one sister. My brothers work here One gets 1*s.*, and the other gets 2*s.* a week. They are younger than me. My sister is only four years old. Father is a riveter. He makes rivets for the shoemakers.

Messrs. Taddy & Co's., Tobacco Manufacturers, 45, Minories, London.

30. *William Chamberlain*, spinner's boy.—I am 11 on the 8th of November. I came a week after last Christmas. I strip tobacco. I turned when I first came. I get 4*s.* 6*d.* now. I come at 8 o'clock. I go away at 7. I never stopped after 7. I go away at 2 on Saturdays. We often go away about 5 o'clock, generally in the summer time. I can't read much (can read a little). I was five years at school before I came here. I go twice a week now, from 8 to half-past 9. We go to a ragged school. There are about 50 or 60 boys there. My father is a journeyman baker. I have five brothers and sisters. All go to school except my sister.

30. *Henry Pardner*, turner to spinner.—I am going 13. I have worked here 8 months. I turn the wheel. I was five years at school. Before I came, I never worked anywhere else. I get 3*s.* 6*d.* a week. The master pays me. I go away at 5 sometimes. I never stopped after 7. I go home to dinner.

32. *Walter Haward*, packer.—I have been 14 months here. I am going 16. I worked at another tobacconists for 15 months. I moulded half ounces then. I got 4*d.* for 10 lbs. Before that I went out with the cart at another shop. Before that I worked at a toy factory. I casked leaden toys. I was 7 years old when I began, or nearly 8. I was three years at school before I went to work. Father died when I was young. That is why I went to work. I have never been to school since I have been to work. (Can read well.) I taught myself. My brother is a good scholar. None of my brothers go to school. My mother teaches us. I go away at 5 or 6, very seldom so late as 7. When I was at the toy factory I worked regularly from 7½ to 8. I have worked to 11. We used to work to 10 every other night. I get 7*s.* 6*d.* a week now.

Messrs. Archer's, Tobacco Manufactory, Broadway, Westminster.

33. *George Burkes*, spinner's boy.—I am 14 and a little past. I have worked here three years. I can't read. When I first came I turned the wheel. I was two years and a half at school before I came. I come at 8 in the morning and leave at 8 at night. I sometimes stop to 8½. I very seldom stop for more than a few nights together to 8½. Once or twice I have worked to 10. I got 2*s.* 6*d.* when I first came. I am a pointer now. I get 4*s.* The master always pays me. I went to a night-school when I first came. I learnt a little but I have given up going now.

34. *John Thomas Winstanley.*—I am going on for 11. I have been here going on for four months. I can read a little. I have never read any since I left school. I was two years at school. I come at 8. I go away at 8. I have stopped here twice to 10. I get 2*s.* 6*d.* a week. I have two sisters and one brother. Father is a gas-lighter. When I first came I turned. I don't know any arithmetic.

EVIDENCE on the TOBACCO MANUFACTURE, collected by Mr. J. E. WHITE.

1. The tobacco manufacture, as carried on in Edinburgh and Glasgow, presents a feature of great and peculiar interest as regards the condition of the boys employed in it, viz., the regular provision made by the trade for their education by means of regular evening schools. This effort, which has already produced good results, is a fact well deserving to be generally known.

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2. The condition, physical and moral, of the tobacco boys in these cities is represented in the reports and evidence furnished under the former Children's Employment Commission as then very miserable. The boys are represented as still belonging to the same class, "the lowest of the low," as one employer describes them, and their earnings also are proportionately low; but to judge from the few specimens which I saw, and from the accounts given, their condition has since much improved. It was probably the very fact of their so low physical and moral condition, which, by drawing attention to itself, led to the efforts which have been made to bring about an improvement. This is the only instance which I have met with of any trade combining as a body to educate the young whom it employs.

3. Mr. R. H. Franks, in one of the reports already referred to (K. p. 9, sect. 71,) gives an account of the first establishment of a general tobacco boys' school in Edinburgh by the foreman of a tobacco manufactory. Of this school, "instituted in 1820, remodelled in 1852," some further account, showing its working at the present time, is given below (Nos. 14, 15). The school is supported entirely by the subscriptions of tobacco "importers, makers, and manufacturers" (including two or three not local), and "shopmen, spinners, and apprentices," with the boys' fees at ½*d.* each a week. The latter amounted in the year ending October 1864, to nearly 23*l.*, or about a third of the total expenditure, the use of a room being granted for the school.

4. The example was followed in Glasgow two or three years ago by the establishment of a tobacco boys' school there of just the same kind, and supported in the same manner. The boys' fees in 1863 amounted to 37*l.* 9*s.* 9*d.*, about a fourth of the total expenditure.

5. I should remark that in the inquiry which I made in Scotland, I confined myself almost entirely to obtaining information as to these schools and their working, with a few general statements from employers, another of the Assistant Commissioners having already collected information sufficiently illustrating the conditions of employment in tobacco manufactories generally.

6. From what I thus learned, it appears that the employers, notwithstanding their efforts, find it difficult to secure such a school attendance as they desire, and that an attendance enforced by law would be rather welcomed than objected to by the leading manufacturers. It appears also that the trade is of a nature which admits of being carried on within moderate and uniform hours, as it generally is; though on the other hand these hours are long for boys so young as most of the tobacco boys are, and it is shown that "during brisk trade it has frequently been found that these (*i.e.*, late) hours "unavoidably encroached upon those of the school." (No. 21.)

7. Either in Scotland or elsewhere I learned nothing of importance as regards the effect of the employment upon the health, and made but little inquiry. The medical attendant of a well arranged manufactory, employing 100 females, four-fifths of them girls, stated that he had not found any undue sickness amongst the workpeople, or anything to attract his attention to the nature of the employment. The smell is strong, but pleasant, though some beginners are made sick by it. Fresher whitewash and paint and more space and fresh air than I have found in some of the few workplaces which I have visited appear of importance in this manufacture.

Messrs. Richardson, Bros'., Tobacco Manufacturers, West Bow, Edinburgh.

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8. The manner in which this establishment is conducted fully bears out the high character given of it in 1841 by Mr. R. H. Franks, who says that it "deserves particular notice." (Report K. p. 9, sects. 69, 70). The "regulations" of the manufactory, library, friendly society, &c., with the catalogue of hundreds of well chosen books, fill a book of 50 pages. The rules for securing a good arrangement of work, exact punctuality, proper treatment and supervision of the boys, cleanliness of the floor, water-closets, &c., and good behaviour of all the workers, and other matters, appear to be framed with great care. The rule "Five minutes to be allowed for relaxation at twelve o'clock," dinner not being till two, is a small but not unimportant instance of consideration for workpeople.

9. Another rule directs that,—

"For the purpose of admitting fresh air into the factory every man shall take his turn weekly at breakfast, dinner-hour, and night in opening the windows of the room in which he works," (under penalty of a penny for neglect.)

10. One of the rules relating to the boys is worth giving in full:—

"*To be poor is no disgrace, but slovenliness is inexcusable.* It shall also be imperative on every spinner under the penalty of (a fine) to see that the boys employed by him have their hands and face washed and hair combed every morning before commencing work. *Health and enjoyment are promoted by cleanliness, whilst fever and disease are the offspring of uncleanliness.* The preservation of the health of all employed in the factory rendering it necessary that the above two regulations be strictly observed, no excuse will be accepted after a boy has been once challenged for neglect of them, but instant dismissal."

11. There are also regulations under the head of "Recreation" for the arrangement of games:—

"The foot and putting balls with quoits being provided to promote the amusement and health of all employed in the factory," "it is hoped a spirit of mutual forbearance and love will exist amongst all, so that young and old may, if inclined, join in the games."

12. The appearance, manner, and answers of the boys seemed to show that the regulations for securing cleanliness, order, and education are not merely formally drawn up and given out, but acted on. Though the boys were apparently of a very poor class, they were neat, clean, and under good discipline. The proportion of boys who could read was far above what I remember ever to have noticed amongst an equal number of boys of the like class and age. Of 62 of the younger boys taken consecutively, 47 of whom are between the ages of 9 and 13, 50 said that they could read. A few of these were rather doubtful whether they could or not. One answered "a wee thing," another "a penny," *i.e.*, in the "penny" book. Of those, however, whom I selected to try, some could read fairly, and all showed some knowledge of it.

13. Altogether the management of this manufactory is most satisfactory and encouraging, and I have thought it right to draw attention rather at length to such an instance.

14. *Mr. Richardson.*—We are the largest tobacco manufacturers in Edinburgh. Altogether there are, or were a short time since, about 25 tobacco manufacturers in Edinburgh and Leith, employing about 260 boys. Of these we employ 70, and three or four other manufacturers perhaps from 20 to 30 or so each, the remainder of the boys being in small places, several manufactories having perhaps six or eight boys. According to a careful list made out in 1853, there were about 38 tobacco manufacturers in various towns in the eastern part of Scotland, exclusive of the 25 in Edinburgh and Leith. These are most of them small, employing, perhaps, on the average from two to nine boys. At the same time there were in Glasgow about 28 tobacco manufacturers, and a few in Paisley and Greenock, and perhaps one or two other places in the west of Scotland. The numbers remain probably much about the same as then, though perhaps the work may have become rather more concentrated in the larger manufactories.

Our hours are from 7 a.m. till 6 p.m. in summer, and from 9 a.m. till 7 p.m. in winter; and on Saturdays only till 1 p.m. There is an hour and five minutes for dinner at 2 o'clock, and in summer the same length of time for breakfast at 9 in addition. The hours in other manufactories here are, so far as I know, much like ours. In country places the usual day is, I believe, about 10 hours' actual work, beginning an hour sooner than we do.

The necessary work can be got through in any manufactory by a regular stated hour if there is proper application. We scarcely ever make any overtime, or more than perhaps an hour at most. We think that we should not produce enough work by it, *i.e.* not procure an article in the same style, so that it is not to our interest to work overtime. The tobacco manufactured in Scotland is all of the same kind, viz., roll tobacco. I never heard of girls being employed in the trade in Scotland.

I am of opinion that the character and condition of the boys employed in the trade here has decidedly improved in the last 20 years. There is an evening school in Edinburgh for tobacco boys, which is supported entirely by manufacturers and others engaged in the trade and the boys' fees. These amounted last year to 22*l.* 15*s.* 1½*d.*, each boy being required to pay ½*d.* a week. It was thought better for them to have to pay something themselves. The school was established on its present basis in 1852, though it had existed in a less complete form since the year 1820. Its effects are decidedly good, but the great difficulty is in getting regular attendance, and this is chiefly owing to the indifference of the parents. There should be some regulation making attendance compulsory. With regard to the present inquiry, there is one point which it is of importance to note, viz., that in the tobacco trade here the increased demand has run to lead to the employment of more and younger boys in it than formerly.

The Edinburgh Tobacco Boys' School.

15. The report of the "Edinburgh Tobacco Boys' School" for the year 1863–64, kindly furnished to me by Mr. Richardson, states that the institution

"During the last 12 years of its operation has conferred inestimable benefits upon many hundreds of industrious children. And besides this, it should be borne in mind that the higher branches of the trade are now principally recruited from the ranks of the boys, and therefore it is of the utmost importance that every available means should be used to improve their character and intelligence."

Also that in the then past year the prosperity of the school had been "progressive in respect of "numbers, organization, and results." It gives the average attendance in each month as 92, and as pretty uniform. It states that at the annual examination the whole of the senior division, which furnished towards two-thirds of the attendances,—

"Were found to be well acquainted with the geographical boundaries and divisions of our own country, and making fair progress in the simple rules of arithmetic."

And in reading and spelling the higher classes—

"As usual showed great proficiency, and those in the lower coming well forward, each in proportion to the regularity of his attendance."

The directors, "looking to all the circumstances of the case, do not see that a much greater measure "of prosperity is likely to be achieved." The report, speaking of the benefits of the school to the community at large as well as to the trade, adds—

"Indeed, we are proud to say that, to our knowledge, the Tobacco Boys' school is the only school in Edinburgh founded and supported by a trade."

Messrs. S. Mitchell and Son's, Tobacco Manufacturers, St. Andrew's Square, Glasgow.

16. *Mr. S. Mitchell.*—We are the largest tobacco manufacturers in Glasgow. We employ nearly 100 boys under 18, 81 of them between the ages of 8 and 13, and about 40 men. By about 14 or 15 the boys get too big to be suitable for the boys' work, and most leave it by that age for other employments. The work will probably always continue to be done by young boys. Machinery cannot be used to any profit for spinning or pointing, which, with stripping the leaves, are the processes employed in making roll tobacco, the kind made in Scotland. Girls are not employed in the trade in Scotland, so far as I know. There is scarcely any place in the south or west of Scotland, except Glasgow, Paisley, and Greenock, in which tobacco is made.

Half time for the boys under 13 could not be carried out without some increase of expense. The wages, which are paid by the men, are so low that boys would not come at all for only half their present pay. The youngest, or wheel boys, get from 1*s.* 6*d.* to 1*s.* 8*d.* a week, the next class, or strippers, from 2*s.* to 2*s.* 6*d.*, and the pointers, or highest class, from 2*s.* 6*d.* to 3*s.* We could not carry out such an arrangement by ourselves, but if it were a general legal requirement for all manufacturers, I should not see the slightest objection to it at all. We should gladly submit to the increase of expense, so that it suited the boys.

There is nothing in the trade injurious to health, or in any way to be taken into account as regards the boys, except their tender age and their too long hours of work. Our hours are from 6.30 a.m. till 6 p.m., with two hours for meals, and these hours are rarely or never exceeded. The trade is regular, and the work could be kept within an uniform stated period without difficulty.

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For about two years a tobacco boys' evening school has been established in Glasgow by the trade, just of the same kind as that in Edinburgh. I and one or two other manufacturers were the chief promoters of it. I had tried for years before we could succeed in establishing it. It is successful and has already done good. The boys are expected to attend, and if they do not are reported to the foreman, but he cannot do much towards making them attend, if they do not wish it. One of the great obstacles is the unwillingness of Roman Catholic parents to let their children come to a general school.

The tobacco manufacture is one of considerable importance in Ireland. It is roll tobacco as it is here; there is scarcely any cut tobacco made in Scotland. The Irish home consumption very far exceeds the Scotch. The population is so much greater, and tobacco is sent largely from there to England. There are more large manufacturers in Ireland than here, some in Dublin, Belfast, Cork, Limerick, Dundalk, and others, I believe, of considerable size in smaller towns. I should say, however, that though there may be Irish manufactories turning out a greater quantity of tobacco than ours does, there is none which employs a greater number of hands. The rolls made there are all of one kind and much thicker than we make, so that less labour in proportion to the bulk is required. The same reasons that prevent the application of machinery here must hold good there also.

[The foreman stated that the school had done great good in improving and reforming the boys employed in the manufactory.]

Messrs. D. and J. M'Donald's, Tobacco Manufacturers, Trongate, Glasgow.

17. *Mr. D. M'Donald.*—Besides 10 men I employ about 30 boys, most of them between 10 and 12 years old. There are a few younger, perhaps by two or three years; the oldest is 14. Unfortunately, tobacco boys are of the very poorest class of boys who are at work at all, and very migratory, constantly changing from place to place. They change about more now than they did formerly, because there are more workplaces. They earn here from 1*s.* 3*d.* to 3*s.* a week, according to their work.

There is no occasion for irregular hours of work in this trade, and I do not allow it. The hours are from 6.30 a.m. till 6.30 p.m., with two hours for meals. The work could be done as well by two sets of boys as by one if they could be got to come.

[Two of the boys were 7 years old, one of them having come when only a fortnight over 7; the other, who had been there a few weeks, earned 1*s.* 1*d.* a week; a third, aged 9, said that he earned 1*s.* 6*d.* and always went to the night school.]

Messrs. J. Keppie and Co.'s, Tobacco and Snuff Manufacturers, Trongate, Glasgow.

18. *Mr. Keppie.*—We employ 28 men and 74 boys between the ages of 8 and 14. Our number is about the same through the year. The boys are the lowest of the low. They earn from 1*s.* 2*d.* to 3*s.* 8*d.* a week, some up to 4*s.* It is not customary to employ girls in the tobacco trade in Scotland, though I think that I have heard of one town where a few are so employed. Our foreman has two or three times talked of trying girls, as we are often scarce of boys. There must, I should say, be 500 tobacco boys employed in Glasgow, as I think that number could be turned out for a school trip. But there would be difficulties in the way of having girls with boys, as separate closets, &c. would be needed.

We make it compulsory on the boys to attend the night school. If they will not go we do not care to keep them. We have introduced a system of tickets, which the boys must bring here with them to show that they have been at the school regularly. But it requires a great deal of attention to get them to go. Boys often leave us sooner than go to school. It would be better if employers had power to force them to attend. It is a pity to see the boys growing up in ignorance. I believe that the school has done a lot of good. For instance, a boy 12 years old when first sent there could not read; now he can. He had been in a ward before. If we see a well-doing boy, we always take him out for a better place if we can.

The tobacco manufacture is carried on in many towns in Ireland. In some of the larger towns there are several manufactories, in some others one or two. There is probably no manufactory in Ireland in which there are as many boys as there are in ours. In Ireland the great majority of the boys are quite big, say from 15 to 18 years old; the rest are men. It is, however, many years since I was employed in the trade there. The general working hours there were then from 7 a.m. till 7 p.m.

The Glasgow Tobacco Boys' School.

19. The "Second Annual Report of the Glasgow Tobacco Boys' School," giving an account of the school for the year 1863, kindly furnished to me by Mr. Buchanan, a member of one of the firms of Glasgow tobacco manufacturers, is full of interest, and shows that the school has been most beneficial, having been "so successfully carried on, and with such marked improvement in the manners and "education of the boys." The following remarks, urged as a special reason for making "provision for "the education and moral training of the young" employed in the trade, are worth extracting:—

"While within the memory of almost every employer machinery has been constructed to lessen or supplant the work of children in other factories, mechanical invention has done absolutely nothing in this way for those employed in spinning tobacco. The peculiar description of the material operated upon renders the operative dependent upon the assistance of children, because he cannot procure by any other means such services as those performed by the fingers of boys. Thus, while he is indebted to their industry for the means of earning wages, the capitalist is also, from the intrinsic value of the raw material and the ease with which it may be pilfered, rendered dependent upon their honesty, and both are at one from regard to their pecuniary interests, although no higher motive existed, as to the necessity of elevating the moral and intellectual character of the children in their employment."

20. A later passage of the report is as follows:—

"We quote a brief practical report made by Mr. Gorrie (superintendent teacher), indicating the amount of good which education is silently producing amongst them (the boys), perhaps more decisively than any other test which could be applied:—

"'When we first broke ground in the old Vennel school two years ago, a very large number of boys chewed tobacco. It was no uncommon thing to find small quantities of tobacco, sometimes in the leaf and sometimes in a prepared state, in the possession of these boys. The first night or two the floor, on dismissal of the school, was literally one pool of tobacco juice. Now you will not find a spittle on the floor from one week's end to another. During last year

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only one boy was found in possession of tobacco which he could not account for in a satisfactory way. * * * *

"'It is still a matter of regret that the very class of boys who have most need of education are just those who are continually bolstering up excuses for irregular attendance, or as often for non-attendance altogether, although I do not believe the boys have any real objection to attend the school themselves; on the contrary, I know it for a fact, that some of our boys have come to school before going home, lest they should be prevented from coming by their parents. Alongside of these, however, it is very pleasing to see the interest that some parents take in their children. They call at the school now and again to ascertain the attendance of the boys—a method that I encourage as much as possible. By that means some of our most inveterate truants have been turned into the most regular in their attendance.

"'In instituting these schools, you inaugurated a new era in the history of the tobacco boys of Glasgow. You are now putting these boys in a fair way to rise from poverty to comparative affluence.'"

21. During the then past year (1863), according to the report, "the largest number of names upon "the roll at any period was 445, and the lowest number 326," and "the average was 250." The fluctuation is accounted for amongst other things by the boys being—

"Naturally fond of play in summer and of home in winter after late hours during brisk trade, when it has frequently been found that these hours unavoidably encroached upon those of the school" (which are from 7.15 to 9 p.m. every evening except Saturday and Sunday, J. E. W.) "A good many excuse themselves on the ground of attending other schools connected with Roman Catholic or other persuasions."

22. A falling off in attendance of upwards of 80, as compared with the previous year, is reported, but it had not—

"Arisen from want of boys, for so far as can be ascertained a larger number have been employed in tobacco works in Glasgow during 1863 than had ever been in any former year within the history of the trade."

This falling off is attributed "to a want of diligence on the part of the operatives" in using their influence to make the boys employed by them attend school regularly.

23. The report states that:—

"Scarcely any class of journeymen operatives has been so steadily employed and well paid as tobacco spinners have been during the past year, and it is indeed humiliating to have occasion to report that the children upon whom they are dependent are, generally speaking, not only ill-fed and ill-clad, but are also comparatively illiterate, while yet the means of instruction are placed within their reach."

24. At the annual meeting of subscribers held on the 29th of December 1863, the operative spinners unanimously recommended to the directors the appointment of a school inspector, who, in case of any failure in regular attendance, should—

"Ascertain, by visiting the homes of the boys and the shops in which they are employed, the reason of their absence. He should also visit the school as often as directed."

Messrs. J. and J. Harvey's, Tobacco Manufacturers, Hanover Square, Newcastle-on-Tyne.

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25. *Messrs. Harvey.*—We dislike making overtime. The work does not go on so well without the supervision of the master, and the people do not work so fresh. At one time our hour for leaving off work was 7 p.m., but we found 6 better. Our hour for beginning is 7.30 a.m. Saturday is the same as other days here, indeed it is one of our most important days. The trade is regular and not one of season. Still we have to make overtime occasionally, say, till 11 p.m. perhaps, but we try to avoid having two nights late running; *e.g.*, if we are late on Wednesday, the hands leave at the regular time on Thursday, and stay late again, if necessary, on Friday. But it is not often that we are late, not more than an average of one night in a fortnight taking the year through. But it would be very inconvenient if we were prevented from working overtime occasionally. We do not think the evil one of sufficient magnitude to require any legislative interference, and such regulations might cause considerable loss. Our customers might go to other manufacturers if we could not finish an order within the time required; or it might tend to force the sending off of goods in a hurry before they were properly ready, which would injure the quality. Tobacco, too, pays a very high duty, and the manufacture should not be hampered by further restrictions. If we were under a Factory Act it might necessitate our employing on an occasion, *e.g.* if we found our stock getting low, more hands than we want to employ regularly.

The reason that we cannot keep a sufficient stock to ensure avoiding overtime is that it does not do to prepare the tobacco long before it is wanted, tobacco when it is cut being a perishable article. As a rule, what is made one day we send out the next if possible; it is not dry enough to send out on the same day. Some, however, may be kept three or four days. Roll tobacco when pressed will keep for months, so that the spinning department might be capable of regularity. It is, however, chiefly in this that we have to keep the hands late. In making cut tobacco steam does most of the work, so that by merely putting on another machine or so we could increase the amount produced immensely.

We have paid great attention to the health and comfort of the workpeople, and gave the architect of our manufactory particular instructions to give plenty of space, air, and light. We also provide a medical man for our people. All the hands are paid directly by us. It is a bad look-out for the children when they are paid by the men; we do not allow it.

We established an evening school for the girls under one of our workwomen. They attended through a winter, but fell off towards summer, and it was found too up-hill work to keep it up.

26. *Elizabeth Ann Addis*, age 12.—Wheel girl. Come to work at 7.30 a.m.; cannot tell what time we leave, it may be 5.30, 6.30, or up to 10.30 p.m. Have not been so late as 10.30 very often, and never later. Stayed last night till 10.30, and one night last week till 10.20. Sometimes we stay late just through a week. All go home an hour for dinner; when we stay late we take tea here. Get 1*s.* 9*d.* a week, and 2*s.* ½*d.* with overtime.

Am sickly. Was off this morning because my head was bad. Took sick last night when I went home, and was sick through the night. Have not very often been sickly before, but when I first came here,

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two months ago, I was dizzy like. It is not often I can take my dinner, but I can take it as well as I did before I worked here.

Have been at school a little, but since I have been here I have lost most on it. Go to school at night sometimes.

[Looks constitutionally weak and sickly.]

27. *Elizabeth Charles*, age 10.—Wheel girl. Left work last night at 11; we begin in a morning at 7.30. Think we shall be late three nights this week.

28. *Margaret Howell*, age 12.—Pointer. When we make overtime, stay till 10.30 or 9 at night. Get 2*s.* 3*d.* a week. Can read, and can write a little.

Mr. Dickinson's, Tobacco Manufacturer, Bigg Market, Newcastle-on-Tyne.

29. *Mr. Robert Stafford*, manager.—Towards 70 persons are employed here, three-fourths of them females from 10 years old upwards. The youngest turn wheels, the next point, the elder girls strip. They get 2*s.* 6*d.* a week at first, and gradually rise. The tobacco is of both kinds, roll and cut. Cigars are little, if at all, made in the north. The hours are from 9 till 6 daily, including Saturdays; till six or seven years ago they were from 8 till 7. All go home for an hour to dinner.

The hours were shortened thus to enable us to get away ourselves, and it was expected that if shorter hours were given the workpeople would exert themselves more, and it was put to them in that way. We have found by experience that they do as much now with the shorter hours as they did with the longer. When people have been long at work they cannot go on with any energy. At first the shorter hours were tried for a time as an experiment only, and were finally adopted as being found to answer. Overtime is avoided, and what work is wanted can be got through in the regular time. There are now more space, more hands, and better machinery. More hands are not engaged unless the increase of business is likely to be permanent.

The factory is a large room, I should say 100 feet long, and open to the roof and lofty, and being newly built is fitted with every convenience. It is warmed by pipes in winter, and is cool in summer, the roof being in ridges glazed only on the north side. I consider that the people have good health. The girls are not away more than may be reasonably expected in any work.

30. *Elizabeth Hord*, age 12.—Two years here. Was first a wheel girl, then pointer, and am now a stripper, and get 3*s.* 6*d.* a week. Hours (*as above*).

Am a very poor reader, but know all the letters. Very seldom went to day school. Think I will go to the Catholic night school if mother will let me.

[Very healthy looking.]

Sheffield.

Mr. Law's, Tobacco Manufacturer, Bridge Street, Sheffield.

31. *Mr. Law.*—The youngest children are employed by the men. There should, I think, be a law that they should not work so young, and this inquiry into the matter is very proper. It is the men's interest to get as cheap labour as they can, but if it were we and not they who found the labour, they would complain of having such young children.

32. *James Fischer* (adult).—We work from 8 a.m. till 6 p.m., never more, often less. None are allowed to stay here at dinner hour. There are 12 boys and girls in this room, and five downstairs. The youngest is eight years old. The children get from 2*s.* 6*d.* to 3*s.* 6*d.* a weak, which is better pay than they do in Scotland. Boys over 14 are not allowed to work; they are too big and would perhaps take the tobacco.

Spinners usually have a separate room. Here the steam from drying the cut tobacco comes up to us. The steam affects the lungs and makes you hoast (hoarse). The work makes some children very sick, their first day quite sick. When I first went I was sick.

I have wrought in the largest tobacco manufactory in Dublin. There were 27 hands there in the spinning. We worked from 7 a.m. till 7 p.m., or dark. I wrought also in the largest Scotch manufactory, which is at Glasgow. We were only allowed to use a light short strap of chamois leather for the boys. Men had used bigger straps too much, and been had up and fined.

33. *Edward Hay*, age 13.—Work at steaming the tobacco and spread it out over the steam. It made me sick at first, but does not now. Get 4*s.* a week. Cannot read very well.

34. *Samuel Atkinson*, age 8.—Just come. Turn a wheel. Work from 8 till 6. Could read when I was at school, but can't now. Don't know what 8 and 2 make.

35. *James Newton* (adult).—From 8 till 6 are the hours in tobacco manufactories throughout the town. At odd times some work a couple of hours later. Believe that in the trade, generally, the hours are shorter than in other trades.

36. The above was named to me as probably the largest tobacco manufactory in Sheffield. I visited another (Ingleson's) and found the hours the same. But very few persons are employed at it. Of the only two girls at work at the time of my visit, one, aged 13, had never been to week-day school; the other, aged 10, could not read; she answered that twice 7 was 17, then that it was 16.

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Mr. H.W.Lord.

Lancashire.

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REPORT upon the TOBACCO MANUFACTURE in Lancashire, by Mr. H. W. LORD.

To Her Majesty's Commissioners.

Gentlemen,

Age.

1. I visited several manufactories of cigars and of tobacco both in Liverpool and in Manchester. In cigar making few children are ever employed, but in preparing tobacco of the kind known as pigtail, many are employed very young; probably the majority begin before they are 9. I found one boy, who was only 7, turning the wheel for twisting. In order to do this he had to sit on the table on which the roll was being laid, as otherwise he could not reach the wheel.

Sex.

2. Both boys and girls are employed in each of these manufactures, and in similar occupations; in one tobacco manufactory in Liverpool nearly one-third—31 in 103—were females. So large a proportion is not usually found in Manchester; at the cigar manufactories of the former town, most, and in some cases all but two or three, are of that sex.

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3. The relative number of children and young persons in tobacco manufactories is considerable. Returns from two such works show that out of a total of 145 there were 38 under 13, and 35 between that age and 18; the number under 18 exceeding by one that of the adults. Where men are employed to make cigars, a few children assist, and there are some apprentices under 18, but their number is not large; in the Liverpool houses, where female labour has been very generally adopted for this purpose, most are young women, and very many under 18, though few are under 13.

Number.

4. Cigar makers are apprenticed to their employers at 14 for seven years; this is the case with both sexes generally speaking. Those who assist in making pigtail and in the other departments are paid a weekly wage, sometimes by the men who twist, and sometimes by the employer.

Hiring and wages.

5. The youngest, who strip the leaf or lay the "wrappers" for the pigtail, earn 2*s.* or 2*s.* 6*d.* a week; the older ones at the same employment earn 4*s.*, and even 6*s.* Cigar makers are paid 2*s.* a week during the first year, while they are learners, and afterwards are paid so much a hundred for what they make, 6*d.* for the second year, 7*d.* for the third, and so on; some in their third year, or at 17, realize 8*s.* and 10*s.* a week, while others, who are slow, careless, or idle, may not earn more than 3*s.* Several girls in the sixth year of their apprenticeship had earned 17*s.*, and one 1*l.*, in the week before I visited the manufactory in which they were employed.

State of places of work.

6. In no trade have I seen so wide a difference between the various workshops as in this. One, the largest of its kind, was an unique specimen of handsome architecture applied to sanitary purposes with good results. Others, small places for the most part, and furnishing no evidence worth preserving, were dirty and unwholesome. Even in shops, where a hundred hands and more are frequently employed, there is in this respect need of much greater attention and care than has hitherto been bestowed on matters of ventilation and lighting; the gas jets being in many cases placed immediately in front of every two or three persons on a level with their heads, or raised but little above them. This subject is so intimately connected with that of the effect of the employment on the health of the workpeople, that I will reserve any further remarks for that head.

Nature of employment.

7. Stripping and sorting leaves for cigar makers and others,—employments in which children and young persons of both sexes are engaged,—need no special description. Cigar makers sit in rows at long tables, which are divided by partitions, so that each worker is independent of his or her neighbour. The cigars are all rolled by hand, a certain quantity of leaves of the various qualities, which go to the composing of each particular cigar, being weighed out to each work person, who returns them in the form of cigars to be weighed a second time. Pigtail is rolled on long narrow tables, at one end of which is a small wheel. This is turned by a little boy, where steam power is not used for that purpose. Other boys follow the man down the table, laying the leaf on it for him to twist. The whole process is very similar to that of ropemaking. The tobacco-cutting machines are sometimes "tented" by the older lads, but in most cases by adults.

Hours of work.

8. Overtime is not usual in the tobacco manufactories, even the ordinary working day is shorter by one hour than in most trades, being from 7 a.m. to 6 p.m., or from 8 a.m. to 7 p.m. In some of the Liverpool cigar manufactories, however, the usual hours, 8 a.m. to 7 p.m., are not unfrequently exceeded by the space of two hours; one young girl told me she had worked until 9 for every night for three weeks; and the foreman stated that in 1861 they had usually worked on till 9 p.m. from August to December. (No. 4.) The extent of overtime was very variable from year to year. At the works, where this had taken place, no tea time was allowed, and several of the girls told me that they were "very tired when 9 o'clock came." (No. 6.)

Meal-hours.

9. An hour is universally allowed for dinner. I have above noticed the case of girls working from 2 p.m. to 9 for weeks, and sometimes months together, without being allowed any tea. In some works the boys are not suffered to leave for the dinner hour (No. 7.), lest they should have two opportunities in the day, instead of only one, for secreting tobacco about them, a practice apparently almost characteristic of the trade, and one to which I shall allude under another head.

Influence of employment on physical condition.

10. Under favourable conditions as to hours and place of work, the employment is a healthy one. Dr. Stooks and Dr. Gee, of Liverpool, the former of whom had at one time attended professionally most of the cases of illness in one cigar factory, were not aware of any special effect of the work on the health of the operatives. It was stated that at the time of the great cholera all who were engaged in the manufacture of tobacco and cigars were singularly exempt from attacks. (Nos. 4, 10.) I have, however, obtained some very interesting evidence relating to the extreme importance of good ventilation in the workplace, or at all events in those, where young women are employed in this business. I refer to the evidence of Mr. Cope and his foreman (Nos. 1, 2), who state, that before certain alterations in their premises had secured sufficient circulation of pure air, "not a day passed without some one or other of them fainting "or going into fits; many were compelled to give the trade up altogether," so that Mr. Cope "began "almost to despair of making women useful;" and his foreman "got quite nervous and used to burn "brown paper and do other things to fumigate and purify the place," and thought "there must be "something in the nature of women that made them unfit for the work." This state of things had, however, been so completely got rid of, that one of the young women in the employ of the Messrs. Cope, who had, she said, been always ill when she had worked there before, told me that she had not even felt faint or sick at her work for the last 18 months; and the testimony of others at the same place fully confirmed this statement. (No. 3.) By some indeed (No. 4) these effects have been attributed to well-known natural causes which periodically affect the female system, but on my mentioning this to Mr. Cope's foreman, I found that he had himself at one time been of that opinion, but his subsequent experience of six years had convinced him that it was erroneous.

Moral condition.

11. Mr. Cope informed me that the girls in his employ are "generally well behaved and good. Not "more than three of ours have ever gone on the town from our works." (No. 1.) Mr. Steel, however, gives a very different account of their conduct at so recent a date as 1854-5, when they (the female apprentices) "used to set all rules and order at defiance;" "they would curse and swear, and dance "about the room, refusing to work." Even now, though orderly enough "if they are blamed or kept "in at all by their parents, they will leave home and go, three or four of them together—young girls of "16 and 18—and take lodgings with some old woman to keep house for them." (No. 5.) So Mr. Steel's foreman: "None that I know of ever go to night school; they prefer walking about the streets "and going to places of amusement, to improving themselves." In all this perhaps there is nothing

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more than the necessary result of their love of gaiety, which is natural, and of the early independence, which, though in a sense unnatural, is the obvious and usual consequence of ability to earn enough to be self-supporting.

12. The system of almost wholesale pilfering, with which both the girls in cigar, and the boys in tobacco, manufactories are charged, is more serious. Mr. Fletcher is afraid to let the boys "go off the "premises to dinner, lest they should secrete tobacco." (No. 7.) Mr. Steel "loses several hundred "pounds' worth every year, but can never detect any one." According to his account the conspiracy to defraud their employer is so general among them as to lead to the inference that their moral sense does not recognize the act as a crime; for before the female searcher has time to do more than stop a suspected person, as they all pass out, "several other girls are round them, and a packet of tobacco or "cigars is found on the floor beneath their dresses, but no one can say from whom it fell." (No. 5.) Even Mr. Cope, who has checked, if not put an end to, this practice in his works, has done so, not by means of a higher tone among his hands, but merely by operating upon their fear of detection through a scheme more successful than that of searching the person, namely, placing round the workplace a gallery with windows, which their apprehension furnishes with eyes that are always watching them. (No. 1.)

13. The boys in the Liverpool tobacco manufactories are said to be "most of them totally "uneducated and very mischievous." Of the truth of the former part of this character, I find ample confirmation in my notes: at one of the best of them, "not half the boys could read at all," (No. 8,) by which I mean that they did not even know their letters. The girls were for the most part better educated; partly because they do not begin so young at the work: in Manchester, however, the boys could, most of them, read a little.

14. In illustration of the utter indifference of parents to the welfare of their children, when any trouble to themselves is involved in seeking it, the account given by Mr. Steel of the failure of his attempt to introduce a scheme of wage tickets, with the view of affording the parent ample and gratuitous information as to the earnings and conduct of his child, is well worthy of your notice. (No. 5.)

I am, &c.

HENRY W. LORD.

EVIDENCE.

LIVERPOOL.

At Messrs. R. Cope, Brothers, Lord Nelson Street.

Evidence.
Liverpool.
H.

1. *Mr. Cope.*—I believe we have the most extensive premises, and employ the most persons of any cigar manufacturers in Liverpool. 385 persons are employed here; 5 girls are under 13; 10 boys and 80 girls between 13 and 18; 90 males and 200 females over 18.

The reason of our having so many girls is simply that our men had a dispute with us about the number of apprentices, and we did not choose to be dictated to. Now, the only men we employ are the few who did not turn out when the rest did. So far as the work goes, girls, after some few years' training, do it as well as men. Each one goes through the whole process for herself, beginning with the sorting and removing the stalk, and performs all the various operations, without any helper, up to the making of the cigar. If we are pressed for time, occasionally, we have helpers to arrange the leaf for the maker; they can get through many more in the day with that assistance, but it is not often necessary.

There are some disadvantages in employing girls: they are more difficult to manage; it is entirely a question of coaxing with them; if they are blamed or put under strict orders, they prefer to go away; they do not fear the loss of work, for all look forward to marrying.

They are generally well-behaved, good girls. Not more than three of ours have ever gone on the town from our works; indeed, if a bad girl comes in among them, she is generally pointed out by them. The fact is that girls do not ever go to the bad from trades at which they can earn enough money to keep themselves.

Their occupation is not necessarily unhealthy—far from it—but the absence of all effectual ventilation in many workrooms frequently makes it so. In our own case, before we had the whole present width of this building, there were windows only along one side, and a blank wall opposite. At that time, as you hear from our foreman (see No. 2, inf.) not a day passed without some one or other of them fainting or going into fits; many were compelled to give up the trade altogether, and I began almost to despair of making women useful; but we broke the wall down, and took in the whole space through to the windows on the other side, and left the centre of the building open from the basement to the roof; the result has been that for the last six years, that is, since this alteration, not one case of the kind has occurred. It used to be among the younger ones, and those unaccustomed to the work, more especially, that this took place, but with many it lasted for years.

I am sure it would be a good thing to insist that there should be so many cubic feet of air allowed for every person employed, where several work together. It is even to the interest of the employers, if they would but see it; for when the workpeople are in a healthy atmosphere, they can get through much more in the same time. It is in places where they are limited for want of room, and crowded together, that overtime becomes necessary.

We generally bind the cigar makers as apprentices for seven years from 14 years of age. Those whom we have at that branch of the business who are younger, have been let in either by a kind of exceptional favouritism, or through misrepresentation. They are paid 1*s.* a week at first, and after that allowed to receive two-thirds of the journey wage; an industrious girl will earn in her third year about 8*s.* a week. We find those do best whose parents require them to bring home some stated sum, and let them keep the balance: it leaves them no heart for work, if they give all up, Most have been to a school of some kind before they came here. The majority can read more or less; still, if you look at our indenture book you will see how very many only make their mark. I think that in many of the schools they cannot be taught properly: you hear what Miss Walbrake, our forewoman, says—that when she used to superintend our night school for the girls a great number could not read, though they had been to school before. I believe it would be well, if we were compelled to employ none under 14, and then only such as could read and write.

At one time we suffered from continual pilferings of tobacco, amounting in the year to a large amount. We used then to have the workpeople occasionally searched as they left the building: that, I think, had a debasing effect, and did not even answer our end. We have now an observatory or gallery with small windows built round the upper part of the room; and

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the apprehension of being unconsciously watched seems to have had the desired result, for our losses since that have been quite trifling.

We have some girls, you see, making up packets, cutting, and so on. If any of those upstairs are particularly tidy and respectable girls, we promote them to that. Two or three young ones are turning the wheel or laying the leaves for spinning pigtail. There has been no change in that kind of work for the last 100 years. Machinery is not used, merely because the attention of scientific mechanics has not been directed as yet to the subject. Machinery is used by us for cutting, but no young ones work there, nor in the snuff-making nor steaming department.

About 50 of our girls dine here instead of going home. They have a room for the purpose, with a fire and stove to warm their food. In winter we give them soup at a 1*d.* a pint; at that rate it is just self-supporting. The work-rooms are warmed by steam pipes in cold weather. They have privies and wash-basins on the premises.

2. *Mr. Robinson*, foreman.—No doubt many of our girls are very little educated, still the signing their indentures by mark is not a fair test; they are very nervous, when they are brought for the first time to engage themselves to a business, and an employer, of whom they know nothing, and will be sure to make their mark, unless they are confident of writing well.

I am quite convinced in my own mind of the truth of the remarks I made in Mr. Cope's presence about the improvement in the health of our people ever since we enlarged the premises and had a good system of ventilation. I used myself to think that the monthly periods had a good deal to do with it, and that there must be something in the nature of women that made them unfit for the work. I got quite nervous, and used to burn brown paper and do other things to fumigate and purify the place; but it is proved by the result to be nothing more than want of a proper quantity of pure air. You shall ask the girls and women themselves, both some who worked here before the alteration, and some who have been at other places, and hear what they say.

An additional source of ill health among cigar makers is the working by gas-light in crowded and insufficiently ventilated places. We have the "sun burner" here, you see, the jet of which is more than 20 feet above their heads, and beyond that is the long pipe at the end of which it hangs, and which acts itself as a ventilator. In many shops the two rows of tables are, for want of space, set back to back, the workpeople facing one another, and from the centre of each four a gas jet rises through the table to a height level or a little above their heads. That is very bad.

The girls certainly do look cleaner and fresher with us than in most cigar places. I don't know that we have the pick of them at all. So far as their dress is concerned, that is merely the effect of a good example; we insisted on their being decently dressed at first, and they are all ready to follow now.

As to overtime, you may depend on it that nearly all of it is caused by want of space, as you say, rather than by want of time. You can't have more than a certain number in one place; and if you are full, and have more work than your hands can get through in the day, they must work longer; that is all.

[3. The evidence of this witness was confirmed by several women and girls to whom I spoke according to his suggestion; one told me that she had always been ill where she had worked before, but that it was now 18 months since she had felt faint and sick at work.—H.W.L.]

At Mr. Steel's, Duke Street.

4. *Mackay*, foreman.—There are 90 or 100 girls and young women here in this room now; when we are full we have about 120. There are no males besides myself and a lad. Very few of the girls are under 14. At that age we apprentice them for seven years.

Their hours are from 8 a.m. to 7 p.m., with one hour for dinner at 1 p.m. At that hour they leave on Saturdays. Those hours are occasionally exceeded, but it is difficult to give an average of the number of times in the year at which we work on after 7. We never go on after 9. That girl, who told you she had been working till 9 p.m. three months ago for three weeks, very likely spoke the truth. In 1861 we worked as late as that from August to December; in other years we may not work overtime at all. They are paid by the piece, and therefore are very ready for a little overtime. They are not allowed any time for tea when they stay till 9 p.m.

We give the learners about 2*s.* a week at the first; after the first year they are paid by the hundred; in the second year they have 6*d.* for every 100, and rise 1*d.* a 100 in each succeeding year of their apprenticeship. Of course their earnings vary with their skill and their industry. Here you see those in their third year earned in this week, some 3*s.*, some 8*s.*, and even 10*s.* In the sixth year some of them earned 17*s.*, and even 1*l.* a week.

They are below the class of dressmakers. Their parents are chiefly poor people, labourers and the like, to whom their earnings are very useful. There is not much education among them. One-half of those here perhaps are able to read; certainly not one-half can write. None, that I know of, ever go to night school; they prefer walking about the streets, and going to places of amusement, to improving themselves.

We do not allow singing or talking; they are fined if they do so. Their health is generally good; at first they may be sickish for a day or two, but it soon goes off. Indeed the trade is noted for being free from the plague and the cholera, when others in the town are attacked. The girls have, some of them, fainting or hysterical fits now and then; I think they are in connexion with their monthly periods, and not with any effect of the tobacco. This room is close at times, it is badly contrived for such purposes; there are windows in the sloping roof, they do not open, but are only for light.* Indeed, on a hot summer day it is boiling nearly.

5. *Mr. Steel.*—What my foreman has told you is generally correct. I was not aware that they had no tea, when they stopped till 9 p.m. The room in which they worked was, however, built for the purpose of being used as a cigar manufactory, for when I took a new lease, the landlord agreed to build all over what was then the yard; the floor of the room being raised, as you see, above the level. He should have pointed out to you that the shutters in the vertical part of the roof open, though the windows do not; the door at the further end of the room opens also to the street at the back: it is their own fault if they have not air enough. But they complain of cold and draught, and put things over their heads, if the windows are open for ten minutes. They are a singularly careless, unreasoning set. I have talked time after time to them about the propriety of putting by a little of their earnings to buy a pair of boots or an umbrella. There is scarcely an umbrella among them, and they come in to work in the morning or from dinner on a rainy day dripping wet sometimes, and so will sit and work. It is that, and not anything in the work-place, or the nature of the work, that is likely to make them ill. I started a savings' bank for the express purpose of helping them to put by a few pence a week to buy some useful article of clothing or the like,—got a ledger, and opened a regular account; but I never had more than 10 or 12 of them, and they never left their money

* See evidence of next witness.

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for more than a few weeks; but they preferred to spend their earnings in ribbons and ear-rings and worthless trinkets, or in going to places of amusement where they had better not be.

For one or two winters I used to let them have woollen polka jackets to work in, so as to be warm; but so many in a few days disappeared into the pawn shops, that I shall not repeat that.

We have a system of fines for being late and for misbehaviour; 2*d.* is the usual sum; these accumulate, and are divided at the end of each month among those who have not been fined. Last month the fines amounted to 3*l.* 16*s.*, and were divided among 20: eight of those on weekly wage received 2*s.* 3*d.*, and twelve of the piece-workers 4*s.* 10*d.* each.

We suffer very much from robbery. We lose several hundred pounds worth every year, but can never detect any one. We have a female searcher, who now and then stops one, as they pass out; but before there is time to do more, several other girls are round them, and a packet of tobacco or cigars is found on the floor beneath their dresses; but no one can say from whom it fell.

I was the first to introduce the labour of females in cigar making. I had a great deal of trouble with them. First, I had all the pains and cost of teaching them; that was a matter, in waste and loss, and in payment of teachers, of some hundreds of pounds from first to last; and then, as soon as they became proficient and at all useful, other employers tempted them away with higher wages. Since that I have had them bound by formal indentures. For some time we had continual disputes with the apprentices. They used to set all rules and order at defiance. They would curse and swear, and dance about the room refusing to work. I had to take several before the magistrates; they supported me in every case, but I pressed only for a conviction in one. I had the reports of several cases, both of my own and of others in the trade, printed in large type and hung up on a board in the work-room as a caution. This was about 1854–5. I began to take females, I think, in 1850. We have no trouble of that kind with them now; they are orderly enough.

When they are out of their time, if they like to stay with me, they do so, on the terms of giving three months' notice. I have not raised my prices to meet the offers of those who try to outbid me, and in most cases, I am glad to say, they have stayed with me for 1*s.* a 100, though they could get 14*d.* a 100 elsewhere. That would be better while it lasted, but mine is more regular; they have enough sense to see that; though when I urge them to save something, by telling them that they must not count on having no slack time with me, because they have not yet had any, they don't pay any regard to me.

Their faults mainly spring from being badly brought up; they are so independent, that if they are blamed or kept in at all by their parents, they will leave them, and go, three or four of them together—young girls of 16 and 18—and take lodgings with some old woman to keep house for them. Even now with us, when they are nearly out of their time, they won't suffer our foreman to speak sharply to them or to find fault.

Some time ago the parents used to be continually coming to me complaining, either that we kept the girls so late or paid them so little. I used to turn to our books, and show them that on the nights they said they had been at work, they had left at 7 or 8 o'clock, instead of 12 or 1 a.m., and that, instead of receiving only 3*s.* a week, they were taking 6*s.* or 8*s.*; or else that they had only been working for perhaps half the week, and absent the other half, or fined for being repeatedly late, and for other misconduct. At last I thought I had hit on a perfect plan, and sent circulars to all the parents to tell them that I should always give each girl a wages' ticket every Friday night, and I asked them to be careful to ask to see it regularly. The ticket stated on one side the number of days at work, wages earned, fines and premiums, and on the reverse the time of leaving for every day in the week, with the amount of overtime. Our clerk used to be employed the whole of Friday in drawing up these tickets. I read a paper on the system at the Social Science Meeting here, and several manufacturers told me that they were much pleased with the idea, as it was just what they had long wanted.

The whole thing was an utter failure. Not one parent in 20 ever took the trouble to ask for the tickets at all—certainly not to insist on seeing them—but came and pestered me as much as ever; and those that did insist often had not the sense to detect the most bungling erasure of the figures with which the delinquents screened themselves. So I gave it up.

[6. Of seven or eight girls whom I examined here, I found only one who did not know her letters. The youngest I saw was about 12 years of age. Some told me that they were very tired when 9 o'clock came, but did not mind the sitting for the ordinary day's work. One, however, of about 25, whose duty it was to weigh the cigars, told me that she had herself been obliged to give up making cigars, because the sitting so long at the table gave her a pain in her side. Others, she said, had suffered more or less in the same way, and most were sick at first beginning; still she did not think the business unhealthy. The area of the room was 30 feet wide by 63 feet long; it was open to the rafters, the height of the side walls being about 11 feet. The roof sprung at an angle of about 30°, and within about 2 feet of the centre rose straight for a height of apparently 4 feet. Along the whole length of this vertical portion of the roof, and on both sides, were wooden shutters, which turned lengthwise on their centre. A door at the further end of the room opened above the street.—H.W.L.]

At Messrs. Fletcher & Co., Fleet Street.

7. *Mr. Fletcher*, jun.—We work regularly from 7 a.m. to 6 p.m., with one hour for dinner, and have no work after 6 p.m. We have 22 boys under 13; two of them are under 11. Most of them turn the wheel or spread the leaf for the men who twist pigtail. We often wish we had none under 13; they are most of them totally uneducated and very mischievous; we are afraid to let them go off the premises for dinner, lest they should secrete tobacco. The girls sort and strip the leaf; of them we have none under 13, nine under 18; there are 23 lads between 13 and 18; 22 female and 27 male adults. All have very good health.

[8. One of the girls who had been for some time stripping the leaf, told me that she felt sick for the first day or two, but since that she had been better than she had ever been before. Not half the boys could read at all.—H.W.L.]

MANCHESTER.

9. Mr. Robinson, Withy Grove.

Manchester.

We have no apprentices, but in that respect we are an exception to the general rule among cigar makers. In Liverpool they employ girls, but we do not. The lads we have seldom begin till they are 12 years old; there are one or two, however, who were younger than that. The little boy who told you that he was

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9 years old last July, and had been here a twelvemonth, is going to be sent back to his mother to-night; he is too young, even now, and ought to be at school.

We don't like to engage any, unless they can read and write, and we make their parents promise to send them to night school. They all work the same hours, 8 a.m. to 7 p.m. The youngest merely pick the dirt out, or strip the leaves from the stalks; they get 2*s.* or 2*s.* 6*d.* a week to begin with, and rise by degrees up to 5*s.* and 6*s.*; in the cigar department they are all engaged in preparing the stuff for the men who make the cigar.

In the tobacco department they assist the men either rolling or cutting; there are two men, one who cuts with a machine, something like a hay-cutter, the tobacco for smoking in pipes; the other stoves. There are seven or eight boys helping them or rolling; they get from 2*s.* 3*d.* to 6*s.*; some merely turn the wheel on which the roll is coiled; the older ones make the roll. There are two girls sorting leaves, they also have the liquoring to do, but goes on only for half an hour at the end of the day, and is done with a watering can. I don't think that is likely to produce the mess on the floor which you say is described to be characteristic of the trade 20 years ago. I often tell my men that I know of several manufactories where their floors are much cleaner than ours; but you see for yourself how little "mess" there is. The adulteration, so called, is with molasses and chicory. At one time an increase of 10 per cent. in the dry leaf was allowed; that is illegal now. There was more mess then. The floor of this cellar is asphalt, and there are vaults beneath.

Messrs. Smith and Williams, Swan Street.

10. *Mr. Williams.*—We have 16 boys under 13, the youngest is only 7, he turns the wheel for his father, who brings him; there are several only a little over 9; it is very light work; they have either to sit and turn the wheel for twisting, or to stand at a table and lay wrappers for the man who makes the twist. There are three lads between 13 and 18, and 11 men; the only females are two grown women, who open the leaf for cutting; it is cut by machines; the older lads tent them.

Our hours are from 8 a.m. to 7 p.m. with an hour for dinner and half an hour for tea. We never have any need to work overtime, and never do. The work is very healthy; in the great cholera time there was not one case in any tobacco manufactory; we have nothing to do with snuff making, that is not made in Manchester, but a good deal of tobacco is cut and rolled here for smoking; the only adulteration is a little water and oil; none of that mess there used to be. The men generally bring their children; most of ours have done so; the boys earn from 2*s.* 9*d.* to 4*s.* at laying wrappers and similar work; the men get about 30*s.* in the week; they are paid by the piece; we pay the boys too.

[11. All the boys here could read; even the little one of 7 could spell short words out: this struck me as being a singularly bad case; for he had a brother of 9 years old working at the same place, and the father was earning 30*s.* a week there. The boy sat almost on the table, turning a small light disc of wood, which moved easily to his hand as he pulled it, not with a handle, but from the top; of course he did not, with his father standing by, admit that he was ever tired.—H.W.L.]

The MANUFACTURE of UMBRELLA and PARASOL HANDLES in the Neighbourhood of STROUD.

Manufacture of Umbrella and Parasol Handles in Stroud.
Mr. F.D. Longe.
I.

To Her Majesty's Commissioners.

Gentlemen,

1. The manufacture of sticks or handles for umbrellas and parasols and walking sticks has for some years been carried on in the neighbourhood of Stroud. Very young children, both girls and boys, are employed in this trade. The manufacture of these articles in great quantities is confined to this locality.

Number and ages of children and young persons.

2. There are now about five or six employers engaged in this trade. In the largest works of this kind there were about 250 hands employed at the time of my visit; of this number about 125 were girls and boys under the age of 18. I found that out of 14 children whom I examined, one was under 7 years of age, three had begun to work between 7 and 8, six between 8 and 9, and three between 9 and 10 years of age.

Employment of children and young persons.

3. The work in which the hands engaged in this manufacture are employed may be divided into three departments:—

(1.) Cutting and shaping the sticks, which are for the most part made of beechwood or ash. In this work no children are employed. It is ordinary carpenters' or turners' work, done by men and a few youths.

(2.) Cutting and turning the bone tips and handles. This is only done in two of these manufactories. Very young boys are employed in cutting bone with circular saws, and in drilling bone.

(3.) Polishing, varnishing, and drying the sticks. In this employment the women and younger children are engaged.

Bone cutting.

4. The rooms I visited in which the bone cutting was going on were low and badly ventilated. The atmosphere was loaded with bone dust. The little boys employed at the circular saws are constantly cutting their fingers. One little boy between 12 and 13 years of age had been working at the circular saw from 7 a.m. to 8 p.m. (meal times excluded) for one or two weeks together. (Evid. 5, 2, 17.)

Polishing and varnishing.

5. No machinery is employed in polishing and varnishing. The elder girls and women are principally engaged in varnishing. The youngest children place the sticks round a stove in the middle of the room to be dried. White and red lead is used to give a smooth surface and body to the varnish. The children have suffered from its unwholesome properties, and it seems that the employers are endeavouring to dispense with it as much as possible. (Evid. 1, 10.) The varnish used consists of naphtha, methylated spirit, and shellac. The rooms in which the varnishing is carried on are, in the case of the largest manufactory, very low and badly ventilated.

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6. The regular hours of work in most of these shops are from 7 a.m. to 6 p.m., overtime to 8 p.m. is, however, very common; one boy under 11 had often worked three nights in a week to 8 (Evid. 8); a girl of the same age, had sometimes worked a whole week to 8. (Evid. 10, 5, 6.) On Saturdays work ceases at 3.30 or 4 p.m.

Hours of work.

7. When the work does not begin before 7 o'clock, no time is allowed for breakfast. The dinner hour seems to be regularly observed, when the hands are employed on day wages. The machinery is stopped at dinner time.

Meal-times.

Wages.

8. The children are all hired by the master. The average wages of the younger children are 1*s.* 6*d.* per week. (Evid. 1.) Some girls of 12 years of age only receive 1*s.* a week. The wages of the half-timers in the neighbouring silk mills are about the same. (Evid. 1.) In one manufactory I found that the children were paid according to their work. One girl of 12 years of age, employed in smoothing the handles of the sticks, was paid at the rate of 1*d.* per gross; her weekly earnings were about 3*s.* or 3*s.* 6*d.* It would appear, then, that in order to earn this sum she would have to smooth about 1,000 handles every day. (Evid. 24.) The sticks produced in these shops are for the most part very ordinary and cheap, and certainly not so necessary or useful to society as to justify the subjection of children to the evils of early labour.

Education.

9. Most of the children I questioned were too young to have gained any education, whether they had been at school or not. Most of them had been at school before they began to work, and were still learning to read at the Sunday schools. A few boys had not been to school at all. (Evid. 18, 19, 20.)

I have, &c.

Francis D. Longe.

EVIDENCE.

Evidence.

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Mr. W. Dangerfield's, Umbrella and Parasol Handle Manufactory, Bliss Mills, Chalford, Stroud.

1. *Mr. W. Dangerfield.*—The branch of my trade in which children and young persons are principally employed is the manufacture of wooden handles for parasols and umbrellas. The work consists principally in polishing and varnishing handles cut out of beech and other wood. Some of the boys are also employed in making bone tips and buttons. With the exception of the boys employed in sawing bone the younger hands are principally employed in helping the older men and women. Very few girls are employed in the bone work. The youngest girls are employed in carrying the sticks from the varnishers and placing them round a little stove to dry. The varnish used contains naphtha, methylated spirit, shellac, and a little white lead, and sometimes red lead. I used to use lead in larger quantities, but finding it injurious to the health of the workpeople I have substituted other colours which do not require it. The varnishing goes on every day, but I do not think there is more than 3 cwt. of lead used in the course of the year. I hope to dispense with the lead altogether. Parents have complained of the effect of the lead on their children. There are between 250 and 300 hands employed in the manufacture in my works, and about half the hands would be under 18 years of age. Our regular hours are from 7 a.m. to 6 p.m. all the year round. They breakfast before they come. They have an hour at 12 o'clock for dinner. The machinery always stops for dinner, except on Saturday, on which day they take only half an hour for dinner, and leave at half-past 3 instead of 4, which was the regular time. If they are going to work overtime they have another half hour at 5 for tea. Most of the hands employed at the machinery work by the piece. During the last summer the machinery has been kept going for a week or fortnight together to 8 o'clock, but not for a longer period than this. The circular saws are driven by water-power, are now being worked to 8 every night owing to the want of water we have experienced lately, but only two or three young hands are employed on them. The varnishers have worked for two or three months overtime in the year. Our business is an order business; we cannot make for stock, but only make up particular kinds of goods according to order. I have silk mills besides, in which there are several hands under the Factory Acts. I should think there were 90 half-timers between 8 and 11 years of age. If this work was put under the Act I think I should dispense with the younger children, but I have not sufficiently considered the matter. I pay all the children myself. Their wages average 1*s.* 6*d.* a week. In the silk mills the half-timers get 1*s.* 3*d.* to 1*s.* 6*d.* a week. The half-timers begin with only 6*d.*, and then rise up to 1*s.* and 1*s.* 6*d.* Much of the machinery in the silk mills is standing now for want of hands.

Bone-cutting Shop.

[This shop was very low and badly ventilated, crowded with men and boys. The air was loaded with bone dust.]

2. *David Griffin*, foreman of bone turners.—I have worked in this trade as a bone turner for 24 years. There are about 10 to 14 men employed in cutting and turning bone. I never knew any man complain of being affected by the bone dust. The boys at the saws cut their fingers sometimes, and are laid up for a day or so. About eight weeks back a boy cut his finger with the circular saw. He was laid up for five or six days, and then came to work again. I do not recollect any other bad cut within the last six months.

3. *Charles Cook.*—I am going 8. I have worked here about half a year. I gather and carry bones downstairs. I come at 7. I go away at 6 at night. I have stopped to half-past 6 only one night. I get 3*s.* 6*d.* a fortnight. I went to school afore I came to work. I was two or three years at school. I go to school on Sundays now. I read Testament at school. Father is an engine driver at a mill. I have five brothers and sisters; two are younger than me and don't work.

4. *Alfred Marsh.*—I am going 11. I have worked here two years and rather more. I drill bones. Before that I sorted bones. I come at 7. I go away at 6 every night. I have worked to 8. I am paid every fortnight. I get 4*s.* a fortnight. I leave for dinner at 12. I come back at 1 o'clock. I never worked through the day without going away for dinner. I always go at 12 except on Saturdays, when I go at half-past 12. I come back at 1 o'clock then. I leave off at half-past 3 on Saturday. I never worked beyond half-past 3 on Saturday. I have worked a fortnight together to 8. I get 5*s.* when I work late. I was at school two years. I go at nights now. I go at half-past 7 and come away at 9. I pay 2*d.* for three nights in the week. I have only been two weeks. I am reading Testament at school. I do nothing else. Father works on the line.

5. *Andy Davis.*—I am 13 years old. I have worked

here between five and six years. I saw bone (with the circular saw.) I have done this for 12 months. I have cut my fingers several times. I once staid away eight days for a cut. I get 3*s.* a week. I come at 7. I go away at 6. In the summer I worked one or two weeks to 8. In the winter I worked one or two weeks running to 8. I get 1*s.* 6*d.* a fortnight more when I work to 8. My saw always stops at 12 o'clock. I get my dinner here sometimes. I live two miles and a quarter away. The bone dust gets into my throat sometimes and makes me cough. I don't know any other boys who go to school from here except me. I have two brothers and one sister who work here. My sister is 18. My younger brother is going 11. He is working a circular saw. He gets 1*s.* 6*d.* or 2*s.* a week. I staid away about two months ago. I had the pain in my stomach, and my head was bad. It was after I had been working to 8 o'clock. Mother said it was too long o' working.

6. *Richard Webb.*—I am going 11. I cut bones. I have worked the saw ever since I came. I have worked here a year and a month. I have cut myself, but never so bad as that I staid away. I come at 7. I go away at 6. I have worked to 8 sometimes. I worked to 8 last night and the night before. I have stayed away once or twice for half a day when I had the headache.

7. *Charles Jones.*—I shall be 12 on the 2nd of December. I have worked here more than three years. I cut up bones. I have had one bad cut. I stayed away a month. I have also stayed away for back ache two or three days. I have not stayed away more than twice because I was bad. I never went to school. I get 5*s.* a fortnight.

Wood-turning Rooms.

8. *Frederick Weaver.*—I am going 11. I have worked here about a year and a half. I sandcloth sticks. I come at 7. I go away at 6. I left at 6 last night. I have often worked three nights to 8. I don't know how many weeks I have worked to 8. I have been to school. I can't read. I go to school on Sundays now. Father and mother both work here. I have three sisters. I get 4*s.* 6*d.* a fortnight.

9. *George Grange.*—I am going 10. I have worked here two months. I am working a circular saw. I cut pen handles. I was seven years at school. I can't read much.

Varnishing Room.

10. *Mary Anne Herbert.*—I am going 11. I have worked here getting on for three years. I sandpaper sticks. I come at 7. I go away at 6. I sometimes work to 8. I sometimes work a whole week to 8, except on Saturday. I have never worked two weeks running to 8. I sometimes go away at dinner time, when I am not well. I have been bad two or three times since I have been here. I was working with red lead when I was ill. The doctor said it was the red lead. I never work with red lead now. I was two or three weeks laid up then. I have never stayed away since I gave up working with the lead. I dine in this room. I always bring my dinner with me. I go to school on Sundays. I can read the Bible at school. I read little books at home. One of them is about Abraham and Isaac.

11. *Elizabeth Warren.*—I am 13. I sandpaper. I come at 7. I go away at 6. I have worked here two or three weeks. I have been to school ever since I was a little maid. I cannot read much. I can't read anything except the Testament. I get 1*s.* a week. I live a mile off. I get my dinner here.

12. *Adelaide Clarke.*—I am just past 12. I have worked here a little more than two years. I varnish. I varnished some red lead sticks last week. I don't think the red lead ever hurt me. I never sandpaper red lead sticks. I generally go at 6 at night. I worked to 8 last winter for several weeks. I get 1*s.* 9*d.* a week when I don't work to 8. I was at school four years before I come. I go on Sundays now. (Can read.) I read the Bible and little books. I read at home sometimes.

13. *Rosanna Wear.*—I am 10 this month. I have worked here nearly 12 months. I move sticks. I come at 7. I leave off at 6. I sometimes work to 8. I sometimes work two or three nights to 8. I generally get my dinner in this room. Once or twice I have stopped away because I was not well. I never stopped more than half a day away. I have been to school. I can read the Bible. I read little books sometimes.

14. *Elizabeth Wear.*—I am 15. I have worked here six years. I sandpaper. I have sandpapered white lead sticks. I do that in this room. There is a little dust from it. I have stayed away two days altogether when I was ill. The lead never hurt me. I go away at 6. I never worked more than two days running to 8. I generally get my dinner here. I don't leave the room at all while I am at work during the day.

15. *Caroline Rice.*—I was 8 last Monday morning. I have worked here about 12 months. I stick-move. I come at 7. I go away at 6. I sometimes stop to 8. I have never worked three nights straight a-head to 8. I get 2*s.* 6*d.* a fortnight. I have been to school. I can read out of the Testament. I have no little books. I read at school.

16. *George Henry Hennings.*—I shall be 7 two days after Christmas that's coming. I have worked here five months. I stick-move. I generally go home at 6. We worked to 8 in the winter, and sometimes in the summer. I get 1*s.* 6*d.* a week. I can't read very well. On Sundays I go to school. Father works here. There are six of us altogether. Sister and one of my brothers work here. There are three younger than me.

Messrs. J. and R. Jones, New Mills, Chalford.

Bone-cutting Shop.

17. *George Young.*—I am going 15. I have worked here two months. Before I came here I worked at Dangerfield's. I was five years there. When I first went I drilled bone. I afterwards cut bone, and then I turned bones. I was about 11 when I cut bone. I cut my fingers sometimes. I was laid up about two months altogether. I once saw a boy cut his finger off. He was going 16. I come at 7 o'clock. I leave at 6. I never work over now. I go away to dinner sometimes. When I was at Dangerfield's I stopped away six weeks. I was ill. I caught cold.

Wood-turning Room.

18. *Thomas Gardner.*—I am going 14. I have worked here about two months. I worked at Dangerfield's three or four months. I was there two years ago I come at 7. I leave at 6. I work to 8 sometimes. I sandpaper sticks. I get 2*s.* a week. I cut pen-holders at Dangerfield's. I never went to school. Father has nothing to do now. He works in the fields.

19. *Joseph Gardner.*—I am going 10. I have worked here about two months. I get 2*s.* a fortnight. I never went to school. I can't read.

Varnishing Rooms.

20. *Mary Ann Smith.*—I was 11 last Saturday at 7 o'clock. I was here a week and three days before last Christmas. I come at half-past 7 and go away at 6; sometimes at 5. I sometimes stop to 8. The week before last I worked all the week to 8, except Saturday. I get 2*s.* a week. I am paid every fortnight. I stick-move. I go to school on Sundays. I was at school before I come here. I can't read anything besides the Testament.

21. *Emma Jeffries.*—I am going 9. I have worked here nearly two years. I have only one sister at home. I have two brothers older than me. I come at 7. I go away at 8 sometimes, and sometimes at 5. I have worked two weeks running to 8. I never

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worked four weeks running to 8. I have worked three weeks to 8. I stick-move. I sandpaper the tops. I never went to school before I came here. I go on Sundays now. I have staid away—not very often, not more than two days at a stretch.

22. *Felix Augustus Franklin.*—I am going 11. I have worked here 12 months. I stick move. I come at 7. I go away at 5 sometimes, and sometimes I work to 8. I never went to school much. I can't read.

Mr. H. Hooper's, Griffins Mill, Shalford.

23. *Mr. H. Hooper.*—I have no bone cutting. I employ children and young persons in making umbrella and parasol sticks. Our regular hours are from 8 in the morning to 6 at night. We never begin earlier than that. My hands nearly all work by the piece. There is a little boy and girl to each varnisher. The boy moves and the girl papers. There are not more than twenty boys and girls under 15.

24. *Mary Ann Godwin.*—I shall be 13 on the 10th of next March. I have worked here about 12 months. Before that I went to school. I came here once before, and then left and went to school. I was not wanted. I come at 8. I leave at 6 every night. I sometimes work to half-past 6 or 7. I never work after that. I get my dinner at 1 o'clock. I leave at 4 on Saturday. I sometimes work to half-past 4 on Saturday. I get about 3*s.* or 3*s.* 6*d.* a week. I get 1*d.* a gross. It takes me about an hour or an hour and a half to do a gross. I smooth the handles with sandpaper.

25. *Thomas Pates.*—I was 10 on the 10th of last October. I have worked here nearly two years. I stick-move. I come at 8. I go away at night. Sometimes I go at half-past 6; sometimes at 7, and sometimes at 8. I often work to 8. I get 2*s.* I earn it. I am paid by the number of sticks I do. I go away for dinner at 1 o'clock. I come back at 2. I never went to school except on Sundays. I sometimes stay away from work for the headache.

26. *Jane Hooper.*—I am going 14. I sandpaper. I have worked here better than 12 months. I went to school before I came. I come at 9 o'clock. I generally go away at 6. I get my dinner at 1 o'clock. I sometimes work on without stopping for dinner. I eat it as I work. I can read. I read little books now sometimes.

Messrs. Clarke's, Steam Saw Mills, Stroud.

27. *Mr. W. Clarke.*—In the ordinary work of sawing timber we should only use one or two boys of about 12 or 13 years of age. This work goes on in open sheds. In making umbrella handles and walking sticks we employ about 40 hands altogether. About one-half of them would be under 15; only two or three under 12. We have no bone cutting.

28. *George Tensett.*—I am going on for 13. I file wood for parasol handles. I have worked here about four years. When I first came I fish-skinned. I come at 7. I go away at 6. I sometimes work to 7 and 8. I never worked a whole week to 8. I was eight years at school. I read Testament on Sunday at school. I cannot read anything else. I go away for dinner at 12. I come back at 1. The machine always stops at 12. I get 3*s.* a week. I used to get what I could earn at fish-skinning. I cut my fingers at the saw,—only once; I was away from work a week.

9. *Sarah Ann Davis.*—I shall be 10 next April. I have worked here about two years. I stick-move. I come at 7. I go away at 6. I sometimes work ten minutes later. I go to school on Sundays. I get 1*s.* 9*d.* a week. Father works at a flour mill. I have four sisters and three brothers. There are four smaller than me. I can't read very well. I read the spelling-book.

The Bobbin Manufacture.

Mr. J. E. White.

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REPORT upon the BOBBIN MANUFACTURE, by Mr. J. E. WHITE.

To Her Majesty's Commissioners.

Gentlemen,

Nature of the manufacture.

1. Bobbin making is a trade subsidiary to the spinning and weaving manufactures, in which large quantities of bobbins are used, and not unnaturally it is carried on chiefly in the same parts of the United Kingdom. The material worked upon is wood, and the chief processes are sawing, turning, boring, and smoothing, all done with the help of machinery, such as circular saws, lathes, drills, &c., worked by power. In general steam power is used, either alone or together with water power, but in some cases in country mills water power alone is still used.

Kindred works.

2. The manufacture of bobbins is not always distinct, but is sometimes found in connexion with work of other sorts, but requiring the same kind of mechanical appliances or processes. Thus some works are described by the owners as "saw mill and bobbin manufactory." In another manufactory which I visited, there is a department for making weaving shuttles, which involves also an amount of metal work. Other things, such as common cotton reels and some miscellaneous articles requiring turning, such as brush handles, trenails, or round wooden pins for railway rails, &c., are sometimes made. Hence it is not easy to define the exact limits of the trade. The places of work in which bobbins are made usually pass by the name of "bobbin mills."

Its seat.

3. From the census returns for 1861 it appears that of all the persons in England and Wales classed as "bobbin makers and turners," nearly the whole are found in Lancashire, the West Riding of Yorkshire, Nottinghamshire, Westmoreland, and Cumberland. In Ireland the trade is stated to be confined to Belfast and its immediate neighbourhood; and in Scotland to be carried on chiefly in the towns of Glasgow, Paisley, and Dundee, all seats of textile manufactures, and on a small scale in a few other places.

Uniform character.

4. From what I found, however, at the places which I visited in the north of England, and the information which I received there from persons who were acquainted with the manufacture in other parts, the nature of the employment appeared to be so simple and uniform, and the conditions under which it is

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carried on to vary so little in different places, except in respect of the hours of work, that I did not consider it desirable to extend my visits to other districts; judging that for all practical purposes a sufficient representation of the employment is given by the instances furnished in the evidence.

5. An almost complete account of the employment as a whole is given by a witness of wide practical experience (No. 3). It will be necessary for me to make but few remarks of my own in reference to the present subject.

A general account.

I.—Age at which Children and Young Persons are employed.

From 8 years.

6. A few boys begin to work in bobbin mills at 8 years old, and many, it is said most, at 9 or 10. From 11 to 13 is the present age of a large portion of those who do mere boys' work.

II.—Sex. Number of Girls and Women.

Scarcely any.

7. The number of females of all ages in England and Wales engaged in bobbin making is put in the returns of the last census at "three." I have seen more than this at work in one place, but none of them under the age of 13; and I am informed that females are employed in a few places, but probably the number is at present so small that it is of no importance.

III.—Number of Children and Young Persons employed.

Estimated number.

8. According to the census for 1861, the total number of male bobbin makers and turners in England and Wales is as follows, viz.:—

All Ages.	Under 20 Years.	20 Years and upwards.	5—	10—	15—20
2,174	842	1,332	35	382	425

Taking off two-fifths for the proportion between 13 and 15 and between 18 and 20 years of age respectively, this gives 264 children and 408 young persons engaged in the trade in England and Wales. Probably, however, judging from what I have seen of the nature of the work, a somewhat larger proportion of those between the ages of 10 and 15 should be taken from the class of young persons and added to that of children. I have not had the means of forming a like estimate of the numbers employed in Ireland and Scotland.

Some in factories under regulation.

9. I am informed, however, that in several cases in England and in all but two in Ireland, bobbin making is carried on as part of the business of factories which are under the existing factory regulations. In such cases, the same system of hours, &c., would naturally be adopted in the bobbin department, but it does not seem as if the latter could rightly be considered within the definition of "factory," as given in the Act.

IV.—Hiring of Children and Young Persons.

10. Nothing need be noticed under this head.

V.—State of Place of Work.

Dust.

11. Bobbin making causes a considerable amount of dust, and it is, therefore, of importance that the work-places should be airy and well-ventilated. Two or three which I have seen are particularly roomy and light, and I have seen none which are crowded. The nature of the work does not easily admit of it. But regular ventilation or means for admitting fresh air or carrying off the dust seem to meet but little attention.

Its removal desirable.

12. It seems clear that appliances, such as fans, &c., for carrying away the dust from the workers, would be beneficial, *i.e.*, if they could be adapted to the nature of the work. But they do not appear to have been tried in this trade. In the few places which I have visited I have never seen any such appliances, and a bobbin turner, who has worked in a great number of places in the three kingdoms, states that he never has, though he has found a great difference in the closeness or airiness of work-places. In one mill I noticed air holes along the wall, but they were all stopped up. A frequent cleaning down of the dust from the roofs, ceilings, and other places seems desirable. In other respects the bobbin mills which I have seen call for no remark. Most are in open situations.

VI.—Nature of Employment.

Hand work.

Lathe ditto.

13. The work at which the younger boys begin is merely hand work. Some put on glue with a brush; others put in small pieces of wood, called "bushes," with a hammer, sort bobbins, carry away the pieces sawn by the sawyers at circular saws, &c. The first machine work done by them is boring, "rincing," or cleaning out the mouths of the holes bored, and "roughing," a kind of rough turning, all works done at lathes worked by power. Some of the boys who "rough" lean back each time a piece of wood is completed, in order to press on a strap passed round behind their backs, which then throws out the piece of wood. Some who bore sit on the front of their work benches, with their bodies twisted on one side towards the boring tool. I did not, however, find any bad effect attributed to either of these kinds of work.

Turning.

14. The work done by boys is seldom of a kind in itself causing much dust till they get to turning, which may be about the age of 14. The younger are, therefore, little subject to dust, except what is spread generally over the place, and they work at different benches or places from the turners and others engaged in dusty work. These, however, are often exposed to a great amount of dust, which settles thickly on their hair, dress, &c.

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VII.—Hours of Work.

Hours in factory towns.

15. In factory towns the hours are the same or nearly so as the factory hours, though sometimes exceeded till 7 or 8 p.m. In the English Lake district, and it appears generally in country places and where water power alone is used, the stated day is longer, usually 13 hours, viz., from 6 a.m. till 7 p.m., less two hours for meals. In two or three places the stated day is spoken of as being not long ago as much as 14 hours, and even, in a busy time, 15 hours. There are exceptions to the general rules. Thus, in a bobbin mill near Windermere, the factory length of hours is kept, as supposed by a workman, because the owners have a factory in Lancashire subject to those limits. In Dundee, where the hand-loom weavers keep up the long-hour system, from 6 a.m. till 8 p.m. is usual, or was so, a few years since.

Elsewhere, longer.

VIII.—Night Work.

Night work exceptional.

16. At a mill which I visited, worked only by water power, work is continued in any available part of the 24 hours when water is short in summer, but usually so as not to employ boys in the period between 8 p.m. and 4 a.m.; but, at another mill, worked only by water power, the stated day is never exceeded. Night work, probably, is very exceptional.

IX.—Meal Times.

Cases of shortening.

17. Where the factory day is the standard, the factory meal times naturally follow. Where the day is as much as 13 hours, two hours are reckoned for meals. But the allowed meal times are, in certain manufactories, shortened in fact, so as to make up for leaving earlier on Saturday or in the evenings. Thus, in two manufactories the dinner hour is shortened to half an hour, and in a third to 40 minutes, the other meals being shortened likewise for the same purpose.

X.—Holidays. XI.—Treatment.

18. I have nothing to remark under either of these heads.

XII.—Accidents.

Mostly slight.

19. Till boys get to the lathes their work does not expose them to accidents, and then seldom to anything serious. They get cut or pierced by the tools on the lathes, but chiefly on the hands only, and the hurts are said to be slight. As a boy often works with his body fronting the boring tool, and leaning forward to push the wood home on to it, it looks as if a slip forward would result in piercing his body, but I heard of no such case. Still a plan which I saw at one mill for moving the wood against the tool by means of a frame looks much safer, and seems likely to have been adopted for that reason, though even there it was only used for some of the work, and said not to be suitable for all.

Avoidable ?

Putting bands on dangerous.

20. The only serious accidents spoken of are where boys have got up to the drums to put on their bands, work which it seems desirable should be intrusted only to men.

XIII.—Wages.

Average.

21. For young bobbin mill boys, say those under 13 or 14, from *3s.* to *5s.* a week seems about the average earnings in neighbourhoods which I visited, but I made but few inquiries on the point, and the rate will probably vary much in different districts.

XIV.—Influence of Employment on Physical Condition.

Bad effects.

22. Employers or managers and several workmen have informed me that they do not consider the work unfavourable to health, stating also, in some cases, that owing to the dust it might be thought likely to be so. Other persons have informed me that it is decidedly unhealthy, inducing in particular affections of the chest. Grounds are shown for this opinion (Nos. 12, 13, 3, 4). The incumbent of Staveley, a village with three bobbin mills, referring to facts observed there, has expressed a strong opinion as to "the injury to the constitution" from the work. (This statement does not appear in the evidence.)

23. I should here, however, draw attention to my former remark, that the younger boys usually are not themselves engaged in work causing much dust, but only share the general dust of the place; and also remark that this varies greatly in different kinds and places of work, and that often it has not been such as to attract my notice as in any way remarkable, while in some parts in which boys work there is none.

XV.—Moral Condition.

24. On this point I made but very slight inquiry, and the boys whom I questioned were very few. But of these few, some had never been at school, and one or two but very little, and some were unable to read. A clergyman considers that "the half-time system would be a great boon to the lads physically, mentally, and morally" (No. 13). As to want of instruction, see also Nos. 14, 17, 19, 21, 8, 3.

XVI.—General Remarks.

Other manufactures closely resembling.

25. The inquiry which I was directed by you to make was confined to bobbin mills. I have already remarked on the work of other but like kinds sometimes carried on in such places in conjunction with bobbin making. From what has come under my notice, I judge it probable that if wider inquiry were made into manufactures concerned with wood working generally, or substances requiring the same mechanical operations, it would be found that a large number of boys are engaged in them under conditions closely resembling those found in bobbin mills.

Shuttle makers.

26. The making of shuttles has a natural connexion with that of bobbins, and might properly be treated with it. The number of shuttle makers in England and Wales, as far as appears by the last census, was 526 males, more than five-sixths of them in Lancashire and the West Riding of Yorkshire, and 126 under the age of 20.

27. The returns of the same census (Table XIX., Order XIV., Sub-ord. 2) give the following number of persons engaged in one branch of wood work alone, which probably much resembles the bobbin mill employment, viz. turning, as follows:—

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Other wood workers, as turners, &c.

ENGLAND AND WALES—MALES.

	All Ages.	Under 20 Years.	20 Years and upwards.	5—	10—	15—20.
Turner	7,628	1,785	5,843	21	437	1,327

The number of boys and youths returned under each of the heads of "sawyer" and "cooper" is larger absolutely, but far smaller relatively to the number of adults. Sawyers, as already shown, form an essential part of the workers in bobbin mills. It might be a work of some trouble so to define bobbin mill employment as, on the one hand, not to leave out work of the same nature as bobbin making done in such mills, or as, on the other, not to include the same operations and processes as found carried on in other trades or manufactures.

I have the honour to be,
GENTLEMEN,
Your obedient servant,
J. EDWARD WHITE.

Lincoln's Inn,
27th February 1865.

EVIDENCE.

Evidence.

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MR. R. H. FELL'S, BOBBIN MANUFACTURER, TROUTBECK BRIDGE, WINDERMERE.

1. The mills stand on a small mountain stream, by which they are worked, with only a few scattered houses in their immediate neighbourhood. The proprietor states, "A few years ago I adopted the "hours prescribed by the Factory Acts, but after a few months' trial my hands petitioned me to allow "them to work their present hours," viz., from 6 a.m. till 7 p.m., with two hours off for three meals. "Were the lads," he says, "prohibited from working the same hours as the adult hands, it would be "impossible to carry on the business, as lads are so scarce in these thinly populated districts that "relays could not be procured." Of the 50 persons employed in the mills only three are boys under the age of 13, seven more under that of 18, and the rest men. Referring to the small scale of bobbin works generally, and the conditions under which they are carried on, he adds, "While recognising the "desirability of limiting the hours of children and young persons in thickly populated districts and "close rooms, I consider it unnecessary in this business."

2. *Mrs. Fell.*—Our work varies a good deal, according to the supply of water. We have no steam. As near as any account can be given, taking one year with another, we work, perhaps, nine months full time, and the remaining three about half time. In summer, when water is scarce, and there is not enough of it to keep the whole works going at once, we let one part of the works run by day and another by night. We generally manage the work then in this way, viz., one of the two mills runs from 4 a.m. till 12 noon, and the other from noon till 8 p.m.; and the big saw, which takes a great deal of power, from 8 p.m. till 4 a.m. The sawing is men's work. But very likely for half these times the work may have to stand for want of water, or run only an hour or two. These stoppages are all dead loss. Of late we have not tried to make it up. We cannot do it well; some want to work on and some don't.

3. *George Owen*, bobbin turner.—I have worked in my trade in most of the districts in which it is carried on, not only in England, but also in Ireland and Scotland. I have worked in several towns in Yorkshire, viz., Leeds, Bradford, Halifax, Sheffield, Barnsley, Ripon, and Pateley Bridge; also in different places in this neighbourhood, both in Westmoreland and Lancashire; at Derby, and two country places in Derbyshire; at Mansfield in Nottinghamshire, Leicester, and Coventry. Coventry is the furthest place southwards in which I know of the trade being carried on. In Ireland all the trade is in or close to Belfast; in Scotland it is mostly in and near Glasgow. I have worked both there and at Paisley; also at a place in Galloway, and at Aberfeldy; and I have seen how the trade is carried on in and near Dundee and at Perth, having been in those parts in search of work. A little is done as far north as Inverness.

In some of the places the work is carried on as a separate business, in others as part of the business of regular factories, which are under the factory laws. In all bobbin mills either steam or water power is used, in some both. Other things besides bobbins are made in some cases, *e.g.*, shuttles, and a few other kinds of wood turning, as brush handles, &c. It is reckoned that a good bobbin turner can do any kind of turning, for cabinets or anything; I have worked at turning brush handles myself in a bobbin mill. In all places the work is much the same as to kind of employment. It is very rarely that any females are employed, but they are, I believe, in a few cases.

Where the work is done in regular factories the hands work the factory hours; and in factory towns generally the bobbin mills work the factory hours, or but very little longer. But in some places, especially where water power is used, which is chiefly in small country places, the hours are longer, as in this Westmoreland district from 6 a.m. till 7 p.m. One of the Staveley bobbin mills, however, works the factory hours, because the owners, I believe, have a thread factory away in Lancashire. In a country place in Derbyshire, where I was about four years ago, the hours were from 6 a.m. till 8 p.m., and on Saturday till 6 p.m. The hours were the same, viz., from 6 a.m. till 8 p.m., in Scotland, when I was there a few years ago, except in Glasgow and Paisley, where the factory hours are kept. Even in Dundee, though it is a factory town, they had the same long day. Long hours are nothing particular there, as the hand-loom weavers work so long and late, all night, I believe, at times. In Scotland, in a busy time, I have known the hours to be from 5 a.m. till 8 p.m. I have understood that at Inverness they work as long. I do not remember any place where if the men wrought long hours the boys did not work the same. The boys are forced to do so, as they

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are getting work ready for the men, and we take it from them.

In making one of the simplest kinds of spinning bobbin there are several processes. First, sawing the wood, drying it, boring, "rincing," or clearing out the ends of the hole bored, glueing, bushing, or putting a small piece of wood into the hole, rincing again, turning, sand-papering, and oiling. This is a kind of bobbin made, as it is called, by hand, *i.e.*, where the tool is held in the hand, though the lathe is worked by machinery. A machine made bobbin is cut out of the wood by blocking or cutting by a kind of boring saw, and has to be roughed, a kind of rough turning, done by boys. A mill as large as this, which has about 50 men and boys, is a fair sized place. It is a big place that has 100. I know about four such. Some have only four or five workers. About 25 men and boys may be called an average size. The proportion of boys under 18 years of age to men is generally somewhere about the same as here, and the boys run much about the same ages as those here.

Putting boys so young to the work, viz., commonly about 9 or 10, is almost the worst thing in the trade. They work that hard that they get fairly mashed up while young, and it crushes their growth, and they can never get to know a thing as they ought, to read or that. They do not usually go to night schools, in the country at least. It would be a very good thing to get this Factory Act, and it is generally thought so in the trade. Even since you have been in here I have been asked to speak about the boys. It is a thing very much thought about in the trade. If a man has several sons he is almost forced by his master, in many cases, to bring them to the work, even before he would wish it, or though he would like to keep them at school longer. Unless he will bring them the master will very likely refuse to have the man. The men may perhaps think that the Act will be good for them, but it will do more good to the boys than to the men, the men generally working by the piece, so that it would not make so much difference to them.

Boys begin usually at glueing and bushing, *i.e.*, putting bushes or little bits of wood into the bobbins. Then they get to "rincing," boring, and roughing, and afterwards to turning, to which they are usually apprenticed. When they have learned that they are at the top of their trade.

It is not till boys get to turning, which may be somewhere about 14 or 13, perhaps older, that their work makes much dust. The amount of dust depends very much on the kind and size of the bob bin, th e dryness of the wood, and also on the kind of wood. Hard foreign woods are the worst. Ebony is like a solid substance inside you, and if you come to cough and spit, it comes out like a round lump. It also tickles the nose and makes you sneeze, like snuff, and makes your eyes twinkle. In all kinds the work is reckoned very bad for the stomach. The dust gets in and causes indigestion, and the way we work, leaning over, &c., causes a bearing down of the chest. The haft of the chisel rests just touching the chest, but only lightly. A bobbin turner spits up a deal of phlegm and thick with dust. A good many get into the habit of spitting just after they get to turning. It is just a habit for getting clear of the dust. Hand-made bobbin work is more dusty than the machine made; the face is nearer to the tool, which is held in the hand. In machine-made bobbins a handle is pulled, which pulls the tools together. In some places more machine work in coming to be done. It would be good, so far, but it would do away with a deal of hand-turning.

Besides the dust in turning, there is dust also, and more of it, in sand-papering, which each turner, man or boy, has to do if the bobbins are hand-made. Sand-papering one kind of large bobbins is the dustiest work in our trade. A turner sand-papers each bobbin for himself as he finishes turning it, but it only takes a small part of his time. A piece of sand-paper, or rather glass-paper, of this size (4 inches by 3 inches) will last with some kinds of work for two or three hours, and with some kinds will be worn out in two or three minutes, *e.g.*, if the work is large and made across the grain. Where girls are employed it is, I believe, chiefly in sand-papering and varnishing at lathes. It is a kind of work which girls can do, and if they can, it would take too much money to have men.

There is a great difference in different work-places as to comfort and healthiness. Some are so close that if you come in on a warm day it is fit to knock you down. In such places you feel as if you were like drowsy, and hadn't air enough. Others are quite large and airy, and if they are it takes the dust away, so that it does not hang about your face and annoy you so much. If you were to go over to yon side, where they are doing big bobbins, you would see the dust lying very thick on the top of men's coats. If there were openings above they would carry the dust up more. In all the places where I have been I never saw or heard of any contrivances anywhere for carrying off the dust, such as the grinders' fans which I have seen in Sheffield, or any other contrivance for the purpose.

Men in the trade in general are of opinion that the work is not healthy. Very many spit, and many go off in consumption. About the time that I came here last year two men died of it at Staveley, one a young man of 26 and another an older man of about 50. Another from Staveley is lying bad of consumption now. I am in bad health myself. A short time ago I had to go to the doctor, (Dr. Dobson. See No. 12), and he said that he thought it was this consumption coming on. He asked me how were the places that I had been in for ventilators, and I said that ours here was very bad. It looks a deal cleaner now, as we have just had the ceiling and walls swept. He spoke of one or two work-places near here as very good, but said that others were pinched up, and that the unhealthiness was a good deal from there being no ventilators to carry the dust away. I had to give up work. I took to spitting blood, and for about a week brought it up twice a day as much as a pint at a time, perhaps, before I could get it stopped. I have lately come back to work, but can't do much. I can't stand to it, but have to sit; my back feels as if it would drop and let me down on my knees. I have pain there and had it in my chest. As a boy I never had much to complain of in health. I was at the strongest and heaviest that ever I was when about 17. After about 20 I never carried much flesh, and I began to get very bad in my breathing, and have been so ever since. I am now 29, and began the trade at 12 years old or soon after.

The accidents to boys which I have seen have been mostly slight, such as hurts on the hand from the boring tools, &c., but I have known of two or three serious cases. One lost his life, another his leg, and one or two an arm. This sort of accident generally arises from a boy trying to put his band on the drum himself. It is chiefly men who have occasion to put bands on the drums, but if a lad uses a band he puts it on himself. Boys are apt to try and do things that they ought not. It is few places where there are rules against the boys putting on bands.

[This witness's appearance bore out his account of his health. His general account of the bobbin manufacture was given in a manner showing good intelligence.]

Messrs. Chadwick, Bros'., Bobbin Manufacturers, Staveley.

4. *William Philipson*, age 17, bobbin turner.—Have worked here 10 years. Am sure it is 10, because I know that I was just about 8 when I came, and I am now nearly 18. Our hours are from 6 a.m. to 6 p.m., with half an hour for breakfast and the same for dinner. We used to have an hour for dinner

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when we left on Saturday at 4 p.m., but since the hands wished to leave early on Saturdays, viz., at 12.30, as we do now, we have only half an hour for dinner every day, so as to make up the time. We never work after 6 p.m. in winter, or after dark in summer, but we have then sometimes worked longer, till 8 p.m. for a week together perhaps. Have come a few times early in the morning, at 1, 4, 3, and so on, but only some of us that were at particular jobs that were wanted finished. One time a few of us worked all night as well as the day; they wanted to get some bobbins off.

When I began I put in bushes. Got perhaps 1*s.* 6*d.* a week just at first, and had risen to about 6*s.* a week by when I was apprenticed to turning. Had so many gross to do, and what you make more is overtime. Have now to make 13*s.* worth a week and get 6*s.* of it, and as much more as I make over the 13*s.*

Don't like the work, it is so dusty, and stuffs you up so; but it's different according to the kind of wood and the job. Alder and ash are very bad, if dry. The dust chokes up your stomach, and you are obliged to spit it up, or you couldn't get on. It stops your breathing. All would tell you the same. Sometimes feel a tickling in my throat. Sometimes your hair is as white as can be with the dust. (*Q.* Is it healthy work?) Nay; I never heard any say it was healthy; I have heard them say that it wasn't. Have lost a great deal of time sometimes because I was not well. Have the rheumatism, and pains in the small of my back. The doctor didn't say what it was from. Sometimes, when the work has been very dusty, I feel a pain in my breast. Have been bothered with a deal of headache; a good deal of 'em has it, and some never has. The work used to have a very great effect of my head; stimulated it like, as if you couldn't stand, and make me quite dizzy. (*Q.* Is there much noise?) Why, you'll have to shout if you want to get anybody to hear you speak.

Have been hurt often. If you've come to look about such things as that, I've catched it. One time I bored right through my elbow. Another time I split through the part between my thumb and hand. The bit that you bore with flew out and struck me. It was not properly put in. It was not my place to put it in; I was too little to look after such things as that; was about 10. Have sometimes been away two or three weeks for a hurt; it just depends on how you get hurt. Sometimes your sleeve gets twisted round the spindle and pinches you, but the spindle stops itself, and I have known several get caught in the band of the grindstone at which we grind our tools. Never saw any one break a limb.

Can read, write, and sum; learned in the evenings at home, and last winter went to evening school.

[Has a slight cough.]

5. *George Rigg*, age 14, rougher at a lathe.—Came to work five years last Easter, *i.e.*, when I was just about 9. It is easy work, and not so dusty. Sometimes bits fly in my eyes, sometimes not much. In two or three summers have worked till 8½ or 9 but not so often. Started on a Monday and worked five nights so. Was not tired; did an easy job then. Get generally 5*s.* a week, sometimes 6*s.* 6*d.*

Have only got hurt once or twice, when the boring bit went in.

Sometimes the foreman takes a strap to us, and the men take sticks and straps and all, but they don't really hurt us; we hardly care for it.

Can read and write, but not do many sums. Was at school before I came to work.

[A boy, apparently, of weak constitution, and in the opinion of the youth (No. 4.) "as little fit to work as any."]

6. *John Black*, age 13.—My hand is tied up because the bobbin split in a knot and the boring bit went into my hand.

[Another boy whom I spoke to had his hand tied up from a slight hurt from the same cause.]

7. *Mr. J. Marson*, manager.—This is about the largest bobbin mill in the neighbourhood. There are 31 boys, the two youngest 8 years old, and about 50 men. The hours are from 6 a.m. till 6 p.m. The business is very regular, and not subject to fluctuation. There is no overtime, at least there has not been since I have been here (*i.e.*, a few years), except now and then to make up for lost time. We are not stopped by want of water, as we have steam; but we use water-power also, and sometimes the mill is water-logged by there being too much water, as in a flood. The steam would not drive the machinery then, as the water presses against the wheel and checks it. This is not isolated from the rest of the machinery. It might perhaps be so, but it would require an alteration. Sometimes, too, the machinery may break. When overtime is made perhaps they get up an hour a day by taking half an hour for tea and working till 7.30 p.m. The machinery always stops at meals. The work is dusty, but is not, I think, very unhealthy. The blocking is the dustiest work; that is done by men. If boys under 13 had to work only half time there would be a difficulty in getting a sufficient supply. There would be no other difficulty.

Mr. Philipson's, Bobbin Manufacturer, Staveley.

8. The mill is large and cheerful, but dusty. There are ventilators along the side, but they were closed. It was winter. Two or three boys had never been at any school, and some could not read.

9. *Mr. Philipson.*—I could not get two sets of boys under 13, or enough older boys to make up for them. The mill is a good mile from the village, and only three boys live near here. The men would have to stand for want of boys. We use only water-power. We have not been short of it to any amount for the last six years. The proper day's work is 13 hours, with two hours allowed for meals; but the men choose to take less, viz., 20 minutes for breakfast, the same for tea, and half an hour for dinner, so as to leave 50 minutes sooner. We never make overtime under any circumstances. The men and boys have always very good health. I have been in the business here 27 years. Some take their meals in the drying kiln, others in the mill.

10. *John Buckhart*, aged 10, rincer.—Was turned 8 when I began the work at another bobbin mill. Work here from 6 a.m. till 6.10 p.m., and till 7.10 p.m. on Thursday and Friday; Saturdays till 3.20. Breakfast and tea in the kiln hole; home to dinner. Had 2*s.* 6*d.* a week at my first place. Here get as much as I can addle.

Messrs. Suart Brothers', Bobbin Manufacturers, Staveley.

11. *Mr. Rowland Suart.*—We begin work at 6 a.m., and work till 7 p.m. on Monday, Tuesday, and Friday, till 7½ p.m. on Wednesday and Thursday, and till 4 p.m. on Saturday. There are two hours daily for three meals. We never make overtime. We use water-power, but have had steam-power also for the last three years, because water has become shorter from the land being drained so much more. We have lately built a second mill, which is very airy; most of the boys work in this. I consider the work healthy. With three bobbin works in this small place there is not population enough for us to

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have two sets of boys under 13. It would annoy us very much. It would raise the wages, and drive the trade away. It is very difficult to get enough hands now. We encourage families with boys to take our houses if we can. Boys get from 3*s.* or 3*s.* 6*d.* a week up to 7*s.*; the roughers, say, 6*s.* or 7*s.* We could not get a man under 15*s.* We should like to be able to have boys from 11 or 12 years old. They get bound at about 14.

[A boy, aged 10, gave the same account of the hours. The new mill is very roomy.]

12. Letter from Dr. Dobson.

Dear Sir, Cleator Lodge, Windermere.

In reply to yours of the 16th inst. I beg to offer a very brief report to your notice.

The bobbin turners of this district (of course, I now write generally) are as a class a very pale, anæmic, strumous race of men, very different in build and physical powers when compared with agricultural labourers of the neighbourhood, and their osseous and muscular tissues are never called into active exercise; consequently they are imperfectly developed. Most, and I might say all, their time is spent in the mill during daylight; their mode of living is very bad; diet is mostly tea, coffee, and bread and butter; flesh meat and vegetables form a very small proportion of their food. Finding this state of things, shall we be surprised to hear that their physical powers are below the ordinary standard?

The diseases mostly assume a low and strumous form, requiring stimulant and supporting rather than lowering remedies; the diseases most commonly met with are phthisis pulmonalis, strumous disease of the bones, dyspepsia, and anæmia. Of these consumption stands first. I am confident, if careful statistics were made, the mortality from this source would be found alarmingly high, attributable to the following causes, viz., young and tender age of entering the mill, long hours, exclusion from sunlight and fresh air, dusty nature of work, mode of living, want of outdoor exercise, and in some instances to the badly ventilated and lighted mills.

The dyspepsia is often caused by living on tea and coffee in the place of more nourishing diet. Allow me to remark that in a county like Westmoreland, anæmia should be almost unknown, when we consider its fine open nature, its bracing and pure air, and many salutary advantages it possesses over populous places and manufacturing districts. While I am penning these hurried lines I have just admitted a patient whose case furnishes a good and fair example of many. He is a young, tall, and strumous man, who has been employed as bobbin-turner since he was 13 years old, working (with the exception of Sunday) from 6 a.m. to 7 p.m., occasionally doing "overtime." In some places two hours, in others one hour and a half, are allowed for meals. His diet has been such as I have described. To show the dusty nature of the work, he says that "his coat has often been covered with dust an eighth of an inch thick." He now applies to me with disease of the right lung and organic mischief of the heart. He may perhaps continue 12 months, and then die of softening of the lung. I give this as an example. I have tried to confine these remarks purely to the diseases met with, having said nothing of the ventilation, drainage, &c. Hoping that these hurried remarks will show you the necessity of legislative interference, such as placing under the Factory Act, I am, &c.

J. E. White, Esq. Thos. Dobson, M.D.

13. Letter from the Incumbent of Windermere.

St. Mary's Parsonage, Windermere,

Dear Sir, Dec. 19, 1864.

I have been engaged this afternoon in making further inquiries relative to the employment of young persons in bobbin mills, and especially those in this parish, and I now send you the results.

(1.) There is a very decided opinion entertained among the wives of the bobbin turners (whom I conversed with separately and without any previous notice) that the employment is not a healthy one. It does not appear to lead directly to any disease, but it has a bad effect on the health generally. The bobbin-turners have a pale, sickly look. No man who is not naturally of a robust constitution can stand it. There is much stooping over the work, and as the air inhaled is full of fine particles of sawdust, which finds its way into the lungs and air passages, there can be little doubt that the work has a tendency to lay the foundation of diseases of the chest and in some cases of consumption.

(2.) The hours of work here are very long, averaging at least 11 hours per diem of actual labour for boys as well as men.

(3.) Not many boys are employed now here. The system of apprenticeship appears quite given up, still there are about a dozen or more in the mill. They do not appear to have actually suffered from attacks of disease, but the confinement, the long hours, the air loaded with dust, and the stooping, were considered by the mothers to have a bad effect upon the constitution, and several statements were made to the effect that they did not now and would not on any account let their boys work in the mill.

[The writer adds here a note as to reasons which might render the persons spoken to "unwilling to give any detailed cases of "ill effects."]

(4.) That the boys are sent to this employment very early is evident, for there are several who have been at work some years and are hardly more than 14, several not more than 13 years of age. I should say it was quite usual for them to go as early as 9 and 10. Of course this puts a stop to all schooling and mental improvement; even attendance at Sunday school is very scanty and broken. The half-time system in these cases would be a great boon to the lads, both physically, mentally, and morally. They grow up very rough and disorderly.

If there are any other points on which you wish for more detailed information, I shall be glad to furnish it if in my power. I am, &c.

J. E. White, Esq. C. C. Lowndes.

14. Letter from the Incumbent of Staveley.

Staveley Parsonage, Dec. 22, 1864.

Dear Sir,

In reply to yours of the 16th inst., I have no further observation to make beyond the natural deduction from the fact of children being enticed early by good wages into a mill, which is that moral training and education must be neglected. We find it to be so. Those who have been sent by their parents at 8 and 9 years of age can do little more than spell out a few letters. * * *

Yours faithfully,

J. E. White, Esq. Wm. Chaplin, B.D.

[There are three bobbin mills in this country parish, and, Mr. Chaplin adds, an "ex-"cellent school."]

Yorkshire.

Messrs. J. and T. Briggs', Bobbin Makers and Sawyers, Hind Street, Bradford.

15. *Mr. John Briggs.*—Our day is of the same length as the factory day, but the hands leave at 5.30 p.m., instead of 6, taking only 20 minutes for breakfast and 40 minutes for dinner. The usual hours in the trade in some parts are, I believe, 13, but in manufacturing towns like this the hands get privileges which they perhaps do not in the country. We sometimes make overtime till 8 p.m. The hands are allowed to

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get tea then, but there is no regular stoppage; the engine does not stop. Boys sometimes get hurt with the boring bit getting into them, but there are no accidents with the bands. They do not lap round the shafts as they do in some work; the dust covers the grease. Boys do not begin at the circular saws till they are about 16. A few young boys help the sawyers by carrying off pieces of wood. Besides bobbins we sometimes make trenails or wooden pins used for fastening the bolts in railway rails. The men keep up healthy and do not mind the dust.

16. *William Northope*, age 8.—I glue bobbins. Am working now from 6 a.m. till 8 p.m. We have to work over every night till Christmas, and have done so ever since last Friday week (*i.e.* from 25th November.) Regular hours and meals are (*as above.*) Get 2*s.* a week. Can read, write a bit, and sum; at school three years, here half a year.

17. *James O'Leary*, age 10.—Carry off wood for a sawyer. Am working over till Christmas. Was never at school, day or Sunday. Cannot read.

18. *Lewis Yates*, sawyer. — The work is of the same kind as here in the other bobbin mills in which I have been in several different places. In Ashton-under-Lyne we had the same hours as they have in factories, but we sometimes made overtime, perhaps for five or six weeks together till 7 or 8 p.m. or so.

19. *William Thomas Haig*, age 16, bush-turner.—Have been seven years altogether in a bobbin mill. This work, bush-turning, is dusty, but it suits my health as well as what I did before; have been at it three months.

Was at day school three weeks and at Sunday school three months; that is all. Can tell the letters, but not do much more. It would not do for me to go to school now; there's three little childer at home and only me to work for them.

[The dust lies thickly on his hair and shirt.]

Messrs. Clayton's, Shuttle and Bobbin Manufacturers, Thornton Road, Bradford.

20. Shuttles as well as bobbins are made here. The shuttle making involves a metal work department for making parts of the shuttles. Two boys were working at glazing wheels, glazing iron pins for the shuttles. Pieces of wood have been put over the tops of the circular saws as guards in consequence of an accident. They protect the worker from pieces of wood being flung against him by the saw, as sometimes happens from there being a knot or flaw in the piece of wood which is being sawn, or if anything catches against the back of the saw.

21. *Sampson Torr*, age 10, borer. — Here two years. Work from 6 a.m. till 5.45 p.m. All this week we have worked over till 8 p.m. Have a quarter of an hour to tea then. Get 4*s.* 6*d.* a week. Was never at the working (day) school. Don't know all the letters.

22. *James Titherington*, age 12. — Bore pin bobbins. Same hours. Have only begun working over till 8 to night. Don't know how long it will be for. Have not worked over before for nearly a year, *i.e.*, for three weeks before last Christmas. Was only at school six months. Can read pretty well, but not write very well.

23. I visited a saw and bobbin mill at Barnsley (Messrs. Wilson and Newman's) employing between 50 and 60 boys, the 13 youngest being between the ages of 10 and 13, and a few females, with about 70 men. The exact factory hours are kept. Steam power is used. A boy aged 11 (William Epworth) stated that he had worked until 8 p.m., but only two or three times; and a boy in another part of the works said that he himself had never worked overtime. Two or three girls sandpaper at lathes. One stated that they had to comb the dust out of their hair at night. A boy puts bobbins on a revolving machine fitted with knives, and it looked dangerous to see him put in his arm to pick out a bobbin that had dropped. The machine, however, moves very slowly. The bands at the boys' lathes are so arranged as to be free from danger. The boys "are not trusted" to handle their own bands, but have to call men. In some cases the boys push the wood against the boring tools by means of a frame instead of directly by the hands. This looks much safer, but it was said that it would not be suitable for all kinds of work.

REPORT upon INDIA-RUBBER WORKS.—By Mr. H. W. LORD.

To Her Majesty's Commissioners.

Gentlemen,

India-rubber Works.
Mr. H. W. Lord.
L.

1. The great variety of uses to which india-rubber is already put, and the probability that this manufacture is still far short of its full development, make the employment of children and young persons in india-rubber and waterproofing works a more important subject than their actual number at the present time may warrant.

2. I am not able to state accurately what that number is. The census returns for 1861 give 1,290 as the total of "india-rubber and waterproof article makers or dealers" in England and Wales.* But this, if correct then, is certainly not so now; for in the five works visited by myself between 1,200 and 1,300 were employed, and there are several other similar places in existence.

3. I have visited three manufactories in the suburbs of London, and one, that of the Messrs. Macintosh, in Manchester. Of two others in the latter town, I received from Mr. Coles, with the authority of the proprietors, accounts which for the most part tally with the results of my own observation. I also visited the works of the Liverpool Rubber Co. There are others of a similar kind at Edinburgh and Glasgow. These have been visited by Mr. White, but are treated by him as a branch of the manufacture of wearing apparel (pp. 42 b. and 47 b., App. to 2nd Report).

Age, sex, and number.

4. Few children are employed; I met with one or two who had begun under 10, but most begin after 11. The number of persons under 18 at Messrs. Macintosh's is scarcely one-seventh of the adults,—51 to about 350: about three-eighths of the total number of hands are female. The same proportion holds for females in London; but that of young persons varies from one-third to one-ninth in different works.

* In "London," as defined for the purposes of the Census, the returns show none under this head.

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5. The 1,290 given, as above mentioned, in the census tables for 1861 are thus distributed:—

	Under 15.	15—20.	Over 20.	Total.
Males - -	70	152	725	947
Females -	35	98	210	343
	105	250	935	1290

Hiring and wages.

6. The men hire and pay the boys who help them, but the females and the rest of the boys are paid by the principal. A boy of 14 is paid 6*s.* or 8*s.*, and a girl 6*s.* or 7*s.* a week.

Nature of occupation.

7. The work of children and of females is chiefly hand work. Boys mould balls in small iron moulds. Children of both sexes tie together threads, which a machine has cut, to be used in the manufacture of "elastic web." Boys of 12 or 13 also assist at machines, where the waterproof cloth is rolled, by holding the edges to prevent creases, and also by turning a hand wheel for winding the cloth. Sometimes boys of 13 "tent" a machine for cutting the block into sheets, or use a machine to cut threads or bands, but in London they are not trusted to do such work till they are 17 or 18. The girls make pouches, gum rings, and balls, pressing together the sides of pieces, which have been stamped out in the proper shape for the purpose. The young women make tubing, and cut out and make up coats, goloshes, &c. In the latter case the sewing machine is frequently used, but the mere pressure of the fingers, or the blow of a light mallet, suffices to unite the edges of the tubing.

Hour of work.

8. The hours of work are often long, from 6 a.m. to 8 and 9 p.m. being not unusual in Manchester, and in London also. Mr. Birley's evidence on this point, relating to the need to strengthen the employers' hands by legislative interference, is very valuable (No. 1). Some time after he had given it, on meeting me again he mentioned, in illustration of the difficulty he found in keeping to regular hours, that although work had been going on for some time before Whit week from 6 a.m. till 10 p.m. at his works, he should not have discovered it, but for the accident of one of the young women fainting at a tea-party given by him to the workpeople; this led to inquiry, and then he found that her exhaustion was attributable principally to having been working so long for several nights previously.

9. Among those whom I questioned myself at Manchester, I found a boy of 14, who had worked on most nights, except Saturdays, from August to Christmas, from 6 a.m. till 9 p.m., and a girl of the same age, who said that she was very tired after having worked till 9 p.m. from 6 a.m. for three weeks (Nos. 2, 4). Girls of that age in London have worked from 6 a.m. to 8.30 p.m. often for a fortnight together, and sometimes to 9.30 p.m. (No. 12, and see Nos. 10, 13, 17 as to adults).

Night work.

10. In one department of Mr. Hamer's works, a system of night and day turns was in use. This is not general in the trade, and would be discontinued there (No. 8). It has been adopted elsewhere in seasons of great pressure (No. 1).

Steam power.

11. In all the processes (such as rolling, washing, kneading, spreading, cutting, &c.), by which the rubber is converted from its natural state and prepared for use, steam power is applied to move machinery. The speed is not great in any case, but some of the machines, especially the rollers, used for amalgamating and reducing the rubber, are very massive. None but male adults are employed at them.

Accidents.

12. In most cases precautions have been taken against accidents by having the machinery more or less carefully fenced. Accidents are said to be rare; those which do occur arise for the most part through a hand or arm being drawn in between the rollers, and are usually very serious. The elaborate system of signals and the complete fencing in use at the works of Messrs. Warne, at Tottenham, show how much can be done to reduce the danger to a minimum (No. 10).

Effect of employment on physical condition.

13. The children and young persons seem not to be especially unhealthy. I could not hear of any part of their occupation being, in their opinion, injurious.† At the same time Mr. M. Hamer, whom I have not had any opportunity of seeing, has stated his opinion that the work is not healthy (No. 8). On the other hand, Mr. Birley, whose sincerity and regard for his workpeople are undoubted, states that the hands, who have suffered from ill health while working in the cotton mill owned by his firm, often change to the india-rubber works, and do so with great benefit to their physical condition (No. 1, and see Nos. 14, 17). The attention of the medical gentlemen whom I consulted had not been drawn to this question, the trade being, as I have observed already, one in which the number was not so great as to attract especial notice. Upon the use of sulphuret of carbon referred to by M. Delpech in treating of this subject, I beg to refer you to a letter received from Mr. Birley (No. 7, and see No. 14). I have found none but male adults employed in the vulcanizing department.

Education.

14. The majority of those whom Mr. Coles examined could neither read nor write (No. 8). At Messrs. Macintosh's, where especial pains are taken in the matter of education, only one or two of those examined by me could not read at all, but comparatively few could manage more than easy words; and Mr. Birley himself states that many of his hands are very ill educated. In London, I found boys of 14 and 15 unable to read.

Moral state.

15. Observations have been made to me by persons of experience as to the bad effect of allowing both sexes to work together in the same place, particularly where late hours are habitual (Nos. 1, 13).

General remarks.

16. There would appear to be but little objection to restrictions which should limit the work of young persons to 10 hours in the day, provided that the engines are not obliged to be stopped. "We are liable," says Mr. Birley, a zealous promoter of the factory system in respect of hours of work, "to seasons of great pressure in autumn and spring, having sometimes to work all night in relays; "but all our overtime and night-work might easily be done exclusively by adults." (No. 1, see No. 8.)

I have the honour to be, Gentlemen,
Your most obedient Servant,
H. W. Lord, Assistant Commissioner.

* The case of the French chalk dust (No. 16) is perhaps an exception. Only one or two in each place have to dust the bands. In powdering the waterproof (No. 17) very little dust is produced.—H. W. L.

EVIDENCE.

Messrs. CHARLES MACINTOSH & CO., Cambridge Street, Manchester. (April 1863.)

India-rubber Works.

Mr. H. W. Lord.

1.

1. *Mr. Herbert Birley.*—I am a partner in the firm of Charles Macintosh & Co. We have a large factory for weaving and spinning cotton besides these works. I know of no reason why the Factory Act should not be equally applicable to one set of works as to the other; at all events so far as the limitations of age and hours of labour are concerned. Indeed, I should prefer for several reasons to be under regulations here as there. It would, however, be extremely inconvenient to be obliged to stop the engines, and cease all work at a fixed time all the year round, for we are liable to seasons of great pressure in autumn and spring, having sometimes to work all night in relays. But all our overtime and night-work might easily be done exclusively by adults.

The number of our young hands is not large; we have only 51 of both sexes under 18, to about 350 adults. Of those 51, 22 are male and 29 female, 9 of the latter, and 4 of the former being under 13. There was some slight error made in filling up the tabular form, which was done a month ago. I have had an accurate list of all under 18 made out to-day. About one-third of the adults are females.

We have no machinery in any department of these works at which females of any age are employed, with the exception of three or four sewing machines; and the greater number even of the lads, including all those under 13, are engaged in hand work, moulding small balls, which they put on the carriage to be heated, or tying threads and the like. Now and then, a boy of 13 or so may have to tent machines for cutting sheets from the block, which are almost self-acting, or to use a machine for cutting threads or bands.

The younger girls make gum rings and balls of various sizes, not merely moulding as the boys do, but fastening together pieces which have been before stamped out into the requisite shape. The older ones make larger articles, but in a more or less similar way. Some make tubing. A few dip the balls into colouring matter, and hang them up to dry; they are over 18. There is nothing prejudicial to health, I believe, in that nor in any part of the works. Indeed, so far from there being anything unhealthy, we often have hands that are unable from one cause or another to stand the work in our cotton factory, change over here, and find that their health improves in consequence. That pungent smell and taste which you notice is caused by the naphtha, used in dissolving rubber for spreading on to cloth. The india-rubber after undergoing various processes of cleaning and kneading is mixed with sulphur, and put into large closed heating vessels. That is wholly male adults' work, as is also the spreading, and, in fact, all the preparation of the material previous to its being converted to the shapes which it ultimately assumes.

Many of our hands are very ill educated; some attend our night schools; we have two of them twice a week, one at each of our day schools, the free school and the other. We have no factory school, but thought it on the whole better to have these two, one free, and one where the school fee is 3*d*. We find they generally sift themselves, those who can afford to pay sending their children to the latter; to this, of course, there are exceptions, but they are not frequent. Both these are Church schools, and open to all the neighbourhood; many, probably most of our hands, send their children to one or other of them, but they do as they please. I have always taken a great interest in their education, and encourage it as far as I can. I think the operatives are very ready to avail themselves of opportunities for getting their children to school, but many are really unable to pay the fee, not through actual poverty so much, perhaps, as from want of system, and careless habits.

With regard to those under 13 years of age, their getting employed here at all is always a mere matter of favour to their parents, at whose request they are introduced. We should prefer to have all over that age, and should have no difficulty in getting them; the work is attractive, clean, and healthful, and they earn high wages. The consequence is that parents bring their children to help them or their friends, so they get a sort of footing in the works. I find we have two girls as young as 10, and one boy and two girls of 11. Three of the four boys under 13 are helpers to the men, and hired by them. I did not know that they were working till 9 P.M., and have repeatedly forbidden any of the very young ones being allowed to stay after 6 P.M. But they and their parents like the extra earnings they have by working overtime, and those whom they help of course like to keep them so long as they are working themselves.

Most of our hands are piece workers, and are excessively jealous of new comers; they would at any time rather work several hours overtime than have fresh hands introduced. For us limitation of the hours would be more convenient, and more advantageous. We should save the gas in the first place, and besides that the effect of late work over night often is that they do not come till after breakfast on the following morning. Be that as it may, for the younger ones at all events, staying at work till 8 and 9 P.M. is bad, and I should be glad to see it stopped, but I cannot effectually stop it myself; the interests, pecuniary that is, and the habits of the work-people are both against me. I should be saved many altercations with the heads of some of our departments, if we were under the Factory regulations, as to the employment of children and young persons.

I am quite satisfied with the working of that Act in our mill opposite. We work low numbers there, coarser work that is, and the dust and flue affect the weakly; so that, as I have said already, they come over here in preference if they can; moreover, the work here is far less monotonous and wearisome than minding a machine.

I think it is a bad thing to have women working with men in the same room, or passing through shops where they work, even where the hours are regular; and where they are not so, it is of course worse. I have tried to put an end to that, but only partially succeeded. Most of our hands in the mill are females; we find them more manageable.

With reference to the effect of the Factory Acts on the employment of children in mills, I should say that they had certainly tended to reducing the number of the very little ones; particularly in the case of those who used to have to do the scavenging. Ten or fifteen years ago, many very small boys were employed to run under the ends of the mules and throstles and clean up, and although cleaning while the machine was in motion was forbidden, they often did so, and got caught and injured. Now, however, most mills in this district have "scavenger-rollers," on which the ends fall, if the thread breaks, and they supply the place of the children, or at least render so many of them and such small ones unnecessary.

Again, the increased size of the carding engines involving an increase in the size of the can, makes it necessary that the can-tenter should be bigger in order to be able to remove the can. The same is the case in creel filling, for the machines being higher than they used to be a small child cannot reach.

2. *Alfred Haslam.*—Am going 14; have been here two years last Christmas; work this machine

India-rubber Works.

Mr. H.W.Lord.

J.

for cutting bands. The foreman of this room is my father. Am working now from 6 A.M. to 7 P.M.; stayed till 9 P.M. every night last week. Was as late as 9 P.M. most nights from August last year up to Christmas, except Saturdays. Can read and write.

3. *Ralph Smith.*—Am going 14; have been here little better than two years. I tent this machine that cuts the sheet of india-rubber from the block. Am not working overtime now; have worked here till 9 P.M. for six or seven weeks together. Earn about 6*s.* a week in regular time.

4. *Lucy Salt.*—Am 14; have been here more than two years. Am making india-rubber balls. Get about 7*s.* a week; that is piece work. Have worked till 9 P.M. for three weeks together, was very tired; that was since last Christmas.

5. [The children and young persons employed at Messrs. Macintosh & Co.'s seemed generally healthy and happy. One room in which a considerable number of girls and women were at work, though large was very close and unpleasant, and many of the occupants looked pale; the foreman, however, on my noticing it, assured me that whenever he opened the windows they would shut them for fear of drafts the moment his back was turned, and they all declared that they were very healthy. I examined several, both girls and boys, as to the state of their education; some were able to read well, and answered simple questions of New Testament history correctly; one or two could not read at all, but most could read short words without much hesitation. The best had, I found, attended Mr. Birley's school, and still went there at night.

6. On a subsequent occasion, Mr. Birley informed me that after my visit some of the girls had, without his knowledge, been working for several days before Whit week (May 24–30) until 10 P.M. He had only discovered this to have been the case through being led to inquire into the cause of one of them fainting at a "tea" given them in the holiday week.—H.W.L.]

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7. Copy of Letter from H. Birley, Esq.

Manchester, September 29th 1863.

DEAR SIR,

I HAD seen the extract from "Galignani" in the "Times" of the 26th, referring to the use of sulphuret of carbon in dissolving and vulcanizing india-rubber, and am glad to have the opportunity of explaining to you, that although "bi-sulphuret of carbon," like naphtha, turpentine, or alcohol, would no doubt be injurious if used imprudently, it is not so if employed with ordinary care.

Bi-sulph. carb. is only *one* of the means we employ for vulcanizing rubber.

The department is well-ventilated, and none but adults are employed in it. Our use of bi-sulph. carb. extends over a period of 16 years, and, so far as we are aware, without injuriously affecting the health of those engaged in it.

The vulcanization of rubber is practised in France, and particularly in the neighbourhood of Paris, by work-people in their own dwellings, and consequently they have not the advantages of the arrangements adopted in large works for carrying off the fumes of the solvents.

I am, &c.

H. W. Lord, Esq. HERBERT BIRLEY.

MR. S. HAMER, ANCOATS, and MR. D. MOSELEY, CHAPELFIELD LANE, ARDWICK.

8. The following account of a visit to the works of the above-named manufacturers was, with their sanction, forwarded to me by R. W. Coles, Esq., Sub-Inspector of Factories.

DEAR SIR, Manchester, August 31st, 1863.

I VISITED on Saturday last, the india-rubber and gutta-percha factories of Mr. Samuel Hamer, Ancoats, Manchester, and of Mr. David Moseley, Chapelfield Lane, Ardwick.

The establishment of Mr. Hamer is chiefly for the manufacture of india-rubber, gutta-percha being simply used in small quantities for mixing.

At Mr. Moseley's factory, in addition to india-rubber, gutta-percha is used in large quantities as a separate manufacture.

In both places a great trade is done in preparing elastic for the elastic web manufacturers.

The chief processes are mixing, laying, vulcanizing, drying, cutting and making up.

The girls, whose ages average from 12 to 18 years, are chiefly employed in tying up the elastic bands into bundles, putting buckles on them, &c.

At Mr. Moseley's factory, a large number of females from 18 years old and upwards, are employed in cutting out and making up overcoats, &c.

The boys from 13 to 18 years old work chiefly in the laying and drying rooms at both places. I found no boys under 13 years of age at Mr. Hamer's, and only three or four at Mr. Moseley's factory. Some of the boys and girls professed to be able to read, a few to read and write, but the majority could neither read nor write.

In appearance they seemed as healthy as those employed in factories generally.

The average hours of work of the women, young persons, and children are from 6 o'clock A.M. to 8 P.M., with half an hour for breakfast, one hour for dinner, and about a quarter of an hour for tea, which last is taken in the workroom.

No night work is done at Mr. Moseley's, but in the drying department of Mr. Hamer's factory, the young persons (boys) are employed in sets, one half work by day from 6 o'clock A.M. to 6 P.M., the other half by night from 6 P.M. to 6 A.M., and change every week; on Saturday work stops at 2 o'clock in the afternoon, and the night set is not employed. Mr. Milton Hamer (nephew of the proprietor), who went with me through the works told me that they were enlarging their premises, and hoped eventually to do away with the night work.

Mr. Hamer said he should have no objection to an Act of Parliament, which would limit the hours of work from 6 A.M. to 6 P.M. He considered those hours quite long enough, especially as the occupation was unhealthy.

Mr. Joseph Moseley expressed the same view on behalf of his father, but he did not seem to consider the occupation so unhealthy.

The various uses to which india-rubber and gutta-percha are now being converted, and the great increase which has being going on for some years in the elastic web manufacture, lead me to believe that that this branch of manufacture is but yet in its infancy, and that ultimately it will open up a large field of employment.

I am, &c.

H. W. Lord, Esq. ROBERT W. COLES.

THE LIVERPOOL RUBBER COMPANY, VAUXHALL ROAD, LIVERPOOL.

9. In the absence of Mr. Somerville, another gentleman of the establishment conducted me through these works.

India-rubber Works.

Mr. H. W. Lord.

The manufacture is confined exclusively to that of shoes and goloshes. In making the material, adult males are employed. The rubber is reduced by heat and pressure; naphtha is used only as cement. The form of the article is stamped out first from the fabric by men, and then handed to women to make, varnish, &c. About 200 of the latter are generally employed on the premises, few being under 18. The binding is put on by sewing machines. The regular factory hours, 12 in the day, with 1½ hours for meals, are always observed. The work-people seemed generally healthy.

LONDON.

Messrs. W. WARNE & CO., Tottenham. (December 1864.)

Four hundred and eight persons are employed at these works, of whom 145 are females: 22 boys and 16 girls are between 13 and 18: 1 boy and 3 girls are under 13; the youngest is 10 years and 8 months old.

10. *Mr. Jaques* (the resident manager) conducted me over the premises, which are very spacious, clean, and well arranged. Great care is taken in fencing the machinery to have every cog wheel thoroughly cased over; there is moreover, in each department a danger bell, by means of which, in case of accident, a gong in the engine room is struck, so that the engine can be stopped directly.

Mr. Jaques stated that the engine could not be stopped to a moment for the meal times, as there might be a piece of rubber in some of the machines, or a piece of cloth being spread, or a "drum" of elastic being cut, which would be spoilt, if the process each was undergoing were not completed; to avoid this, bells with indexes communicate between the engine room and the other departments, and the engineer does not stop until all have answered his signal to do so.

The regular hours of work in the summer are from 6 A.M. to 6 P.M., with half an hour for breakfast at 8 A.M., and an hour for dinner at 1; in the winter from 8 A.M. to 8.30 P.M., with the dinner hour as before, and half an hour for tea at 6 P.M.; on Saturday they leave at 2 P.M. * Children under 14 make 5 hours a week overtime for about 3 months altogether at different periods of the year. Those between 14 and 18 work on an average 68 hours a week for about 6 months altogether. The adults are frequently later, sometimes till 11 P.M.

In one room about 20 girls from 12 to 15 years old were employed in "skeining up" the threads for elastic web and tying them in hanks together. A few boys of about 13 were employed to carry things about, one of 14 was winding cloth; those who were at the machines for cutting threads were stout lads or young men.

The women earn on an average 16*s.* or 17*s.* a week, and the little girls 6*s.*; none receiving less.

There is in connection with these works an excellent "institute" and dining room; the men and women, who do not live near enough to go home for dinner, dine in the hall, a central partition separating the two sexes. This partition is taken down, when the whole of the hall is required for lectures and other meetings of the operatives. At either end of the building there are suitable conveniences. There is also a small library for the use of the work-people; daily and weekly papers are supplied by the firm, who also furnished the cooking range as well as the building. An old servant of the establishment is allowed to cater for those who take their meals there, and I was informed that a good dinner could be got for 4½*d.* Altogether it is the most comfortable room of its kind that I have seen.

There is also a benefit society, which is managed by a committee of the men: besides the regular subscriptions of members, all the fines enforced for improper behaviour, talking, and other infringement of the rules of the works are paid into the sick fund.

Three boys, and three out of four girls whom I examined, read well. All these seemed remarkably well behaved, intelligent, and healthy.

11. *Elizabeth Adams.*—I am 10 years and 8 months old: have been here since last November year; never worked any where before. My mother is store-keeper in the same room that I work in. I make tobacco pouches. The next oldest girl to me is just a year older than I am. I have worked till 8·30 P.M. in the summer, but never later. I used not to come at 6 A.M. then, not before 8 A.M. I have never worked longer than from 8 A.M. to 8·30 P.M. That does not tire me.

12. *Lucy Holdsworth.*†—Am 14; have been here a year or more; skein up the threads in Mr. Holmes' room; never worked any where till I came here. The summer is our busy time; I have worked as late as 9.30 P.M. then; but never more than once a week; I came at the usual time, 6 A.M., then; when we go on after the usual time for leaving, 6 P.M., we often go on till 8.30, but very seldom later. I have worked till 8.30 P.M. every night in the week, but not for more than two weeks together. All the girls in our room but Harriett and two others can read; those two can read about as well as she can.

["Harriett," who was rather nervous, had read to me in the presence of this witness, and could manage only words of one syllable. She was 11 years and 6 months old, and had been 9 months at work.]

THE LONDON INDIA-RUBBER COMPANY, West Ham (Dec. 1864).

Between 70 and 80 persons are now employed here, this being the slack season; rather less than half of these are females. I found upon personal inquiry from the workpeople that the youngest female was 16 years old. One boy was between 12 and 13, and three or four more were 14 or 15. The rest, of both sexes, were 18 and upwards.

13. From *Mr. Hall*, the manager, and *Mr. Elston*, the foreman, who accompanied me through the works, I obtained the following information:—

The boys are employed either to carry cloth and other articles from one room to another, or to wind cloth on a roller by means of a hand wheel, or to coil the wire used for the interior of gas tubing, &c., a treddle being the motive power in the case of small wire.

None but males are employed in the various processes of preparing the material: the machinery con-

* The statement as to overtime was furnished to me by Mr. Jaques, Mr. Fanshawe, and Mr. Widows, as the best approximate estimate they could arrive at after some discussion with me on the subject.

† I am not sure of this name.—H. W. L.

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Mr. H.W. Lord.

1.

sists chiefly of very massive and powerful rollers used for amalgamating the rubber with other substances, and reducing it ultimately to sheets of different thicknesses: there are also machines for spreading rubber, to be afterwards cut, also by machinery, into strings or threads for the warp of elastic web. For all these steam is the motive power, but they are driven very slowly. Mr. Hall stated that though accidents seldom occurred, those that did occur were, owing to the great weight of the rollers, very serious. They usually arise through the hand being caught by the rollers in taking the rubber out from or putting it in between them, and he had observed that they never happened to a novice, but always to a man who had had some years experience, so as in fact to have grown careless through familiarity with a danger from which new comers are protected by their fears.

The women make up and shape the material into the articles for which it is required, especially the garden hose and tubing of all kinds, rings, &c. No sewing is needed for any purpose, the adhesive properties of the material, by itself or with the addition of a solution, enabling the pressure of the fingers, or the blows of a light wooden mallet to unite the edges over the mandrils or metal tubes on which such articles are formed.

The usual hours are 59 in the week; from 6 a.m. to 6 p.m., with 1½ hours for breakfast and dinner on five days, and till 1 p.m. on Saturday with the breakfast half-hour. There are, however, seasons of pressure when the adults of both sexes stay till 8 p.m.: this constantly happens between the months of March and July, if the season happens to be dry, as garden hose then becomes in great requisition. In the autumn, also, there is a large demand for gas-tubing.

When the works first commenced, about two years ago, Mr. Hall adopted "American hours," 58 in the week, beginning at 7 a.m., and leaving as now, at 6 p.m., the dinner hour was at 12, and breakfast was taken before coming, so as to make 5 days of 10 hours; on Saturdays they left at 4 p.m.; they were paid as they are now, for 60 hours; but after a time they petitioned to have the system changed, and preferred the present plan, though by it they give another hour's work for the same pay, chiefly, as it would seem, from the force of the domestic habits of the district, which are opposed to getting breakfast ready before 7 a.m., or from a preference for the Saturday half-holiday.

Mr. Hall observed that he had a very strong objection, on moral grounds, to allowing women to stay at all late at any place of work where men were also employed, and would not have any of them stay after 8 p.m.

He and Mr. Elston both considered that overtime was very common in the trade; the reason being that although the Macintosh patent had expired, there are still secrets in the manufacture which would lead an employer to keep the hands he might have on overtime in preference to getting fresh ones, whom he must discharge when the pressure is over; while the hands themselves are pleased with the opportunity of earning extra wages, and therefore ready to work longer.

14. *Mr. Elston* informed me that he had known of boys being employed in india-rubber works at 8 or 9 years of age, but only to carry things about; and at 10 or 11 to cut bands, but they had always been sent away at the end of the regular day, and had not made overtime.

He thought the occupation healthy, having himself been in the midst of it for 12 years; he had not suffered in any way from it, though he had a decided tendency to asthma. Bi-carbonate of sulphur, though used for fancy goods in France, he considered to be very rarely, if ever, used in this country.

15. *George* ———.—Am 15; can't read; not at all: don't go to night school ever; always leave here at 6 p.m.: have 6*s.* a week.

16. The women all looked remarkably healthy: one, who was dusting bands with French chalk, said that it made her cough a good deal.

Messrs. G. SPILL & CO., Hackney Wick.

One hundred and sixteen persons are employed here, 30 being females; the youngest, 2 boys, are between 11 and 12 years old; no girls are under 13: there are 22 boys and 7 girls between 13 and 18 years old.

17. *Mr. Spill.*—The youngest boys we have hold the edge of the water-proof cloth to prevent it creasing as it passes under the rollers. Those who are rather older turn the wheel.

Our hours are from 6 A.M. to 5.30 P.M. in summer, and from 8 A.M. to 7.30 P.M. in winter: an hour is allowed for dinner and half an hour for breakfast or for tea. We have not made any overtime for the last two years; before that time we often made two or three hours overtime, but we found that no more work was done than could be done in the regular hours, so we have now adopted a plan of paying for the day of 10 hours whether they work the whole day or not; in the summer time they frequently make only a three-quarter day, that is from 8 A.M. to 5.30 P.M. We have the same rule for our piece-workers, and as a matter of fact as much is done in 10 hours under proper management as used to take 13 or 14, for they used to loiter over their work in order to get paid for overtime; the employer saves a great deal in gas alone. They are paid at 2 P.M. on Saturday.

Besides tubing we make a great deal of sailors' oil clothing and the like; we employ young women at sewing machines making water-proof garments.

The least any boy is paid here is 1*s.* per day; those who turn the wheel get 8*s.* a week.

They are all healthy, the naphtha is considered very wholesome; in times of epidemic we are singularly free.

The water-proof cloth after being rolled is powdered with French chalk to prevent it from sticking.

18. [The youngest girl here was employed in the store-room, sorting leggings, she told me she was 13 and had been there 1½ years. Two boys, aged 14 and 15 respectively, were unable to read. One boy aged 10, the son of one of the men, was said to come only occasionally to bring beer and food for his father; sometimes he helped when the water-proof cloth was being hung up to dry; he said he could not read and did not even know his letters; his father, who was standing by, immediately caught him up and said he did, but admitted that he never went to school now. This man, Mr. Spill informed me, earned upon an average 30*s.* a week.—H.W.L.]

REPORT on ARTIFICIAL FLOWER and OSTRICH FEATHER MAKERS.—By Mr. H. W. LORD.

To Her Majesty's Commissioners.

Gentlemen,

Artificial Flower and Ostrich Feather Makers.

Mr. H. W. Lord

M.

1. In the course of my inquiry into the employment of milliners, I found that in some instances, both in the wholesale and the retail trade, the flowers and feathers used in that business were made or prepared for use upon the premises of the milliner. These instances, however, were so exceptional as to lead me to reserve my remarks upon them, and to make the manufacture of artificial flowers and the preparation of ostrich feathers the subject of separate investigation.

2. The prevailing fashions of the last few years have led artificial flower manufacturers in several cases to add to their own proper business that also of the ostrich feather making, though the two trades are still usually independent of each other. The latter, however, requires a number of producers, in proportion to the amount produced, so much less than the former, as to leave the total of "feather makers" comparatively small. (No. 51). At the same time the processes of the one are so distinct from those of the other as to make it more convenient to treat of each separately, although, as will be seen, the conditions of employment are for the most part very similar.

3. The manufacture of coloured flowers is almost entirely confined to London. Mourning flowers are made both there and in Manchester. In those towns the accompanying evidence was taken.

ARTIFICIAL FLOWER MAKERS.

Sex.

4. At some places men and a few boys are employed to stamp out, to colour, or to "vein" the leaf, or the petal of the flower, but the putting together of the various pieces, which go to make up the flower, is wholly the work of the female sex.

Age.

5. None of the boys are under 13. The girls begin usually at 10 or 11 years old. I met with some who were only a few months more than 8, when they first learned. These had then been either at home or at the smaller places, where from 5 to 20 girls and young women work together. Even in large factories, where 80 or 100 were employed, some were barely 10 years old. This was so both in London and in Manchester.

Number.

6. At the latter place the proportion of children employed is larger than in London. Out of about 90 in one case, 33 were under 13, the three youngest being between 9 and 10, but in London those under 13 are rarely one-tenth of the whole (Nos. 1, 6). Those under 18 on the other hand are very numerous, and form in some cases the majority (No. 5). The total number, and especially that of the children, varies with the season of the year and the nature of the work (Nos. 1, 6, 11, 19, &c.). Indeed it has in this trade become the practice only within the last 12 years to collect large numbers to work together; "it used to be very rare for 50 to work in one place" (No. 11); but now out of nine large establishments visited by me, five employ, when they are busy, more than 100 persons on the premises; at one there were seats for 180.

7. According to the last census the number of artificial flower makers in London under 15 is 463, and between 15 and 20, 2335; in other parts of England and Wales there are 550 under 15, and 2503 between 15 and 20, giving a total of 5,851 females under 20. There are only 4946 persons over 20 engaged in the trade, and of them only 620 are males.

Hiring and wages.

8. In Manchester the girls are, in some cases, bound apprentices to the employers for two years, receiving 1*s.* 6*d.* a week at first, and 2*s.* 6*d.* in about six months.

9. There is no system of apprenticing in the London trade. The children are sometimes all placed together as learners at a table under the superintendence of one experienced hand. In that case the employer pays, and usually hires them, but more commonly they are brought by a mother or an elder sister whom they help, or by an older hand who pays them a weekly wage from 1*s.* 6*d.* to 4*s.*

10. When paid by the employer they usually come for one month for nothing, and rise from 1*s.* gradually to 4*s.* or 5*s.* a week. A girl of 14, if industrious, may make 6*s.* 6*d.* or 7*s.* a week between 9 a.m. and 9 p.m. Most who are not learners are on piece work; 12*s.* is stated to be a fair average weekly earning. Some get considerably more. A young woman with a helper sometimes earns 1*l.* a week, working 12 hours a day. Some have received 35*s.* in one week, but then "tremendous hours" were going on.

Hours of work.

11. The hours of work in London, during the busy season, are indeed "tremendous." This season is variously stated as being from six weeks to three or four months twice a year. For a considerable portion of that time girls of 16 and upwards constantly work 14 and 15 hours a day, and occasionally as much as 18 (Nos. 4, 13, 20, 21). One girl, aged 19, had worked twice all night through and on till 5 p.m. on the first, and till 10 p.m. on the second occasion (No. 20). Even children of 12 and 10 have often worked 14, and sometimes 16 hours (Nos. 20, 22, 23, 29). The employers, however, generally as far as they can, prevent the younger ones staying very late; but their endeavours appear to have been fruitless in many cases, particularly where the child has been helping a mother or sister (Nos. 1, 10, 11). In some cases, after 13 hours work in the factory, girls of 16 take work home "enough to "last two hours" (No. 23).

12. This system of long and late hours of work is deplored by several of the employers and forewomen as being most prejudicial to health and wholly unnecessary. They consider that, if the workwomen would come early and punctually, and work industriously during the 12 hours from 8 a.m. to 8 p.m., or from 9 a.m. to 9 p.m., nearly if not quite as much work could be done, as is now got through on their premises in three or four hours more (Nos. 1, 2, 5, 6, 11, 12, &c.)

13. The fact that some employers have, in spite of the inveterate habits of their workpeople, reduced their hours of work to something like reasonable limits, suggests that a want of resolution, or of management, or of inclination, on the part of the rest is the chief cause for their example not having been successfully imitated.

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14. The only other cause of late work is one usually alleged in trades which manufacture goods to supply to wholesale houses—sudden orders requiring immediate execution. Although comments have from time to time been made to me upon the utter indifference shown in such houses to the inconvenience or overwork resulting from their orders, in no instance have I heard such unanimous and such bitter complaints as from artificial flower manufacturers. Those who have used the strongest language have naturally been most averse to letting their names appear in connexion with it; but I am sure that many philanthropic gentlemen at the head of large wholesale city houses would be much shocked and pained, if they could realize the feelings entertained by many of these, so to speak, small manufacturers towards those who represent them in such transactions. An illustration of the short notice given by such houses, though not of the complaints above referred to, is given by a witness (No. 5) who mentions an order which he refused, received by him at 5 or 6 p.m. on the day before my visit to be delivered without fail the next morning; "it could not be done without working very late." And similarly another: "We had 50 orders one after another marked 'special,' or in some such way, "coming in at 8 p.m. perhaps, to be delivered without fail to-morrow morning; or an order at 11.30 "a.m. to be delivered in the city at 3 p.m. on the same day," (No. 10, and see 13).

Meal-times.

15. "When we are busy, they often take a very short time about their meals; that is a matter in "which they please themselves" (No. 2). Consequently, being on piece-work, they often work through their meal-time, taking their food at the work-tables (Nos. 5, 13, 15, 20). This is said not to be the case usually with the younger ones (Nos. 20, 22), but it does occur with them (No. 23). At some places young women, who began to work at 6 a.m., often had no breakfast till 11 a.m.; when working late, they had supper at 9 or 10 p.m. (No. 20).

Holidays.

16. There is unfortunately much slack time, nearly four months, in which little or no work is to be had by the majority of flower makers. They also have two or three days' holiday at Easter and at Whitsuntide. In busy times many work till 6 and even 9 p.m. on Saturday.

State of place of work.

17. Much of the work is still given out to be done in small places, where a family works with two or three others to help them. This is particularly the case with mourning flowers, violets, and other simple and common goods. In such cases the workplaces are mere dwelling rooms, sometimes back kitchens on the basement. These are often dirty and fœtid.

18. The accommodation in large factories is in many cases quite inadequate to the numbers employed there in the season. In one room which I measured the number of cubic feet per head was 131; in a second, 111; the latter room was calculated to hold more than 70 persons, the former about 14. In a third large room, when at its fullest, for six weeks or so, the cubic feet per head are 95, in another 86, and in a fifth only 70. The heat and bad air are very generally complained of; the gas burners often have neither glass nor shade. Small gas stoves used to heat the tools are commonly placed on the tables, almost under the mouths of the workpeople. In some cases, "the smell from the water-closets makes the whole workroom offensive" (No. 15). The business, strange as it may seem, is essentially dirty and "dusty beyond belief" (Nos. 6, 11). One witness finds it necessary to have one of his workrooms limewhitened twice, and another papered once, in every year (No. 11).

Treatment.

19. The children who help older hands, as a rule,* "get no benefit" from the extra amount of work they do, while they are being continually urged on to be "quick" and to "look alive," and, "if not "knocked about, are at least frightened or worried into over exertion." (No. 10). "The little ones are "kept late and cuffed about" (No. 11). "They are often very badly treated by those whom they help, "like little slaves in fact. They are not perhaps actually knocked about and hurt much, but there are "other ways of ill treatment than using hands to them. They nearly worry the lives out of them some-"times" (No. 25).

Nature of occupation.

20. The muslin, silk, or other fabric, of which flowers or leaves are made, is cut out by means of a hand-stamp, with edges sharp enough to pierce through 16 folds when smartly struck with a hammer. The material is placed for this purpose on a slab of lead. Leaves are veined, after being cut, by being placed between a pair of dies, and subjected to pressure. If the whole petal or leaf is to be of one tint throughout, the whole piece of stuff is coloured, before the "cuts" are stamped out. When the centre of the petal is to be left plain, each is coloured separately with a brush.

21. The above-mentioned are the occupations of the boys and young men, though females are also frequently employed to put on the colour, and sometimes to vein. The great majority of the women and girls are engaged in putting the petals together so as to make the flower; in forming the "culo," or the foundation on which the petals are stuck; in gumming, waxing, dusting (with potatoe flour for bloom, or with powder of blown glass for frost), twisting paper or silk thread on to the stalk, and in other details. "It is at the best a very fidgetty work, and especially for young ones" (No. 25).

22. The younger children usually have to open the "cuts" or layers of petals, &c. which have been stamped out in the manner before described, and to separate them into the 16 or more pieces of which they consist. For this purpose they use a pair of pincers or plyers; they also have to pass a fine wire through the centre of each of such pieces, when the flower is to be made in that way. Twisting thread round the wire to form the stalk, and threading beads, are also common occupations of children. Some are allowed to use a small goffering iron, a kind of single-pronged fork ending in a small bulb or ball, to curl the petal.

Effect of employment on physical condition.

23. All this involves delicate manipulation, and a great strain upon the attention of a child, particularly at the end of a long day's work and by gas light. One witness, an employer, speaking of flower makers generally, says, "The thumb and finger get frequently sore and covered with blisters from "working the goffers, and picking up and manipulating the very small pieces of material which they "use. Sometimes they have their thumb-nails cut across right down to the quick by the constant "friction of the wire or the silk thread which they twist on the stalk." He adds an instance of a girl who had her little finger so inflamed by the constant use of the goffering iron as to be unable to straighten it; her whole hand was cramped for "the best part of a twelvemonth" (No. 10.) This statement is confirmed by several (Nos. 19, 23). "I have known a girl ill for a fortnight through sores made by "winding the stalks" (No. 20).

24. The dust of the colour is complained of more than anything else in the business as being injurious both to the eyes and to the health generally. This especially affects the children, since it arises for the

* See for an exception No. 15.

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most part from "opening the cuts" which is their chief work. "It gets on the hair and the pleats of "the dress, and lies quite thick on the table after a day's work .... the dust gets on to their eyelashes "and so into their eyes, I think, and irritates them" (No. 6). This account coincides with the experience of Mr. Taylor, one of the surgeons of the Central London Ophthalmic Hospital, an institution which from its locality has probably more cases of girls in this trade than any other of the kind (No. 31).

25. Some of the girls speak of the dust being bad by reason of its getting on the chest. The carmine is especially complained of as making one "feel heavy about the head" (No. 23). Some tie handkerchiefs over their mouths and noses when separating the pieces (No. 20), but this is seldom done.

26. The arsenic green is very rarely used now, and never dusted on as it once was. When used at all, it is mixed with gum, and spread moist on the muslin before the leaf is stamped out, so that there is no dust when it dries (No. 26. See No. 31, and Nos. 1, 2, 15, 17). Verdigris blue (sulphate of copper), which is spoken of as the only thing unwholesome in the sense in which the green was so, is very little used now, though it was very fashionable five years ago (No. 15).

27. The mere brightness of the colours, blue and carmine, is in some cases very trying to the eyes, and for this reason working day after day on a very dazzling colour is avoided by those who study the health of those whom they employ (Nos. 5, 6). "I have known girls with their eyes nearly out of "their sockets with making white flowers by gas light in winter" (No. 34). Threading beads is mentioned as being equally injurious under similar circumstances (No. 19). One forewoman told me that she always put them on black paper, so that they might be more easily seen and taken up by gas light (No. 25).

28. The eyes of the children become so bad sometimes, as even to attract the employer's attention (No. 10). The case recorded by Mr. G. Lawson, of the Royal Ophthalmic Hospital, Moorfields, shows the effect produced in the way of congestion of the eye (2nd Rep. No. 408, p. 186) by the mere late hours of work in a room overheated by excess of occupants and of gas light. Such conditions of work are no doubt productive of great physical evil among all, both children and adults; "all suffer "in health," whether long late hours be, as some think, the chief cause (Nos. 1, 13, 21), or heat and bad air (No. 2); or the colour dust, the hurried meals, and the constant sitting and stooping, which hurt the chest (Nos. 20, 22, 23). It would probably be impossible to apportion the amount of injury due to each one of these agents. Unhappily they are in most cases to be found all operating at one time in concert to produce a result, attributed to that one of them, which the constitution or the habits of each speaker predispose her to feel more acutely than the rest.

Education.

29. Many of the children are very ill educated. I have found girls of 10, 12, and 15 unable to read. "After they have once begun to work they don't ever get much schooling. Half of such little ones "never learn to read till they grow up" (No. 3, and see Nos. 7, 9, 34). "It is very sad to see their "ignorance; some do not even know their letters" (No. 25). "I find, say 9 out of 12, badly educated, "can perhaps read a little, but not write, and all of them have a very imperfect idea of right and "wrong" (No. 32).

30. In some cases the children are allowed and encouraged by the employer,—not always with success (No. 15)—to go to an evening school once or twice a week (Nos. 8, 12, 19), and one case is mentioned of the younger ones being allowed to go away to school for two hours in the day, returning afterwards to work again (No. 23).

31. In Manchester the state of education is rather worse than in London. A forewoman states that out of 50 in her room not 12 can read. Of eight girls from 10 to 13 years old, whom I examined there, only one could read fairly; four could not read at all; and three spelt their words of one syllable letter by letter. Most of them had never been to any day school.

32. In both places the neglected condition of the children is attributed rather to the indifference or the vices of the parents than to their poverty. "Some of the best educated are those who have had the "greatest disadvantages" (No. 25, and see Nos. 37, 40).

Legislative measures.

33. Those who observe these evils and deplore them, think that nothing short of legislative measures will remedy them. One "wondered that Government had not before instituted some inquiry into the "employment of children in the artificial flower trade" (No. 24). Another "would like very much to "have the whole trade governed by some sort of Factory Act" (No. 1). A third, who "would "give all the assistance in his power to any scheme to secure the enforcing of a regular system "of hours," adds, "but the difficulty will be to reach the small employers. Any regulation to be "useful must comprehend them" (No. 56).

OSTRICH FEATHER MAKERS.

Age. Sex.

34. Girls begin at 11 or 12 years old. The majority are probably under 25. A few boys are employed to help the men in dressing and dyeing; they are 14 or 15.

Number.

35. The greatest number employed at any one place visited by me was 62; this is unusually large; a few have as many as 30 or 40; most only 8 or 10.

Hiring and wages.

36. In Liverpool they are bound for three years; in London there is no system of apprenticing. Little ones begin with 1*s.* 6*d.* or 2*s.* 6*d.*; some have 3*s.* 6*d.* a week, and make 5*s.* and 6*s.* with overtime; they are hired and paid by the employers, though they help the older hands by preparing their work. Older hands earn from 10*s.* to 16*s.*, and with overtime 18*s.* and 20*s.* a week.

Nature of occupation.

37. The children are chiefly occupied in clipping or twisting the feathers, and scraping the quill; the others sew pieces of feather together, tie fresh ends on, curl and mount. All the work is light.

Effect of employment on physical condition.

38. There is at times a good deal of flue and dust in the air, but I know of nothing else in the nature of the work likely to be prejudicial to health (No. 49).

State of place of work.

39. The work-rooms are however liable to be exceedingly hot and overcrowded; the cubical contents of one room which I measured were 125 feet per head. A good light is requisite, and therefore a good deal of gas has to be burned, while at the same time windows, usually the sole source of ventilation, may not be opened for fear of blacks or damp (No. 44).

Hours of work.

40. The hours in the season, though by no means so long or so irregular as those among artificial flower makers, are yet frequently too long, at all events for girls of 12 or 14. At one city warehouse,

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where they are in other respects very kindly cared for, the average for nearly three months, twice a year, is from 8 a.m. to 10 p.m.; on rare occasions they have worked there from 7 a.m. to 11 p.m. A girl of 14 had worked for four days running from 8 a.m. to 11 p.m. (No. 43). At another place, one of them, about 15, had worked from 9 a.m. to 12 p.m. day after day, for several weeks (No. 46).

41. This is no doubt very tiring (No. 47.) "Whenever I can manage," says the forewoman of the first-mentioned house, "I send the little ones home earlier, but even I, myself, have felt too tired almost "to catch the last omnibus home ..... I do assure you they never knock up even in our busiest time; "still I can't help thinking that it must tell on them sooner or later." But—and this is the real explanation of much of the apparent anomaly of overwork existing in many places, where, as in this case, the comfort and the welfare of the employed are studied by those who employ them—"I must own that "I do not like to say I can't get an order done, when it is brought to me" (No. 44).

Meals.

42. When little ones come early to work, they sometimes have not had time to get any breakfast before leaving their home, and are not in many cases so fortunate as to be under a forewoman, who can "send them into the kitchen for a cup of tea or coffee and something to eat," with perfect confidence that her employer would approve of it, if he knew it (No. 44).

43. Tea is usually had in the workroom; they take about half an hour, but generally have no fixed time for it. Most go out for dinner and take an hour; but piece-workers in this, as in other trades, often curtail their meal-times, when they are very busy.

Education.

44. They seem to be superior, as a class, to the artificial flower girls; I met with none who could not read a little, and many can also write.

I have, &c.
H. W. Lord.

EVIDENCE.

LONDON.

Messrs. Lockyer & Co., Shaftesbury Street, New North Road (July 12th).

London.

m.

1. *Mr. Lockyer.*—This is our dull season; we are busy for four months from February to May, and again for about the same time from August to November. We now have only 122 persons employed on our premises; 10 of those are males, the rest females, and only six of them under 18. None are under 13. We should have, when full, about 250 altogether; 150 or more here, and the rest at their homes. About 20 of them would be children under 13; some as young as 11. These are usually brought by their mothers or sisters to help them; we do not in any case hire or pay them ourselves.

We call our hours from 9 to 9, but for eight months out of the 12, we are as late as 10½ p.m., and very often work till past 12. Ours is the worst trade for irregularity; we cannot get the workpeople to come at 9 a.m. or anything like it. Many won't come till 11; they play on Monday, and don't do much on Tuesday; on Thursday and Friday they work hard; we have double as much work done on those two days as on the rest. On Saturday they leave between 2 and 4, and do very little in the morning. We have tried to prevent this, and used to shut nearly half of them out if they would not come punctually, but we could not carry it on, there were too few skilled hands, so that they were independent. This was a few years back, but still those who have been any time with us, know that they can always get work from others in the trade, and so would be ready to leave us if we controlled them. It is very bad for their health the working so late in close hot rooms by gas light. All suffer in health; those who are early and regular certainly are more healthy than the others, there is nothing unwholesome in the trade now that the arsenic green is disused, but the long late hours produce very great mischief.

I should like very much to have the whole trade governed by some sort of Factory Act; we could manage very well with working from 8 till 8, or from 9 till 9, and I am sure that the workpeople would like it too. Employers like myself would be pleased, and support any such scheme if it were general in the trade. It is not that all stay late night after night, but every night for three months or more at a time, there will be some 20 out of them staying till past 12; they will have come at about 10 a.m. We, the employers, perhaps, suffer more than any, for so long as any work is going on we must be about. I am sure that my wife's health has suffered in consequence, she has been about 10 years in the business. The children, who are hired to work, usually get away by 10 p.m., but if they are helping a mother or sister they will stop and go home with them.

The state of things is no doubt worse in small places. There are many small men, with whom we, in fact, compete, who occupy, it may be a six-room'd house, and employ six or seven little girls on day or task work, in a room upstairs or a back kitchen, and have their wives to finish off.

Good wages are earned at artificial flower making, it is almost all piece work; our women frequently earn 12*s.* and 15*s.* a week; one we have, who with a child to help her, earns over 1*l.* a week. They pay their helpers about 2*s.* a week, some have 4*s.* I should say that a fair average worker earns 12*s.* a week without difficulty in about 12 hours a day, allowing an hour or so for dinner. The meals, however, are not taken at any particular time; most take their dinner at 1, and have an hour for it. Many go home. Tea is taken at about 4½, they have it all at once, it takes about a quarter of an hour, but they don't leave off for it, they take it as they work.

2. *Miss Emma* (forewoman).—I am sure that all the workpeople wish their hours to be less and more regular than they are, but they cannot form a system for themselves, and no one employer can enforce rules on them, because the habits of the people are all the other way. What they want is to be all of them compelled to come and to leave at fixed hours, whenever they are working. They would earn as much between 9 and 9 as they do now by staying till 11 and 12, for the more they have of gaslight the less they are able to do. It is that, and not the mere length of hours that injures their health, the heat and bad air; the same persons are not often at work from 9 a.m. to 12 and 1 a.m., and in the manufacture there is nothing injurious now that the arsenic green is not used.

When we are busy, they often take a very short time about their dinner; that is a matter in which they please themselves.

The usual plan with the younger ones is to come to one of the older ones on trial for a month; after that they will be paid 1*s.* or 1*s.* 6*d.* a week for another month or two, and so they gradually pick up the trade, and are in time employed directly by the manufacturers. It is very rare for any to be apprenticed.

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In smaller places there are more children in proportion to the total number, and they are younger than ours. The plan there is to pay so much a week and to task them with a day's work. If they don't get through it in the day they are kept till it is done. I don't know that they are commonly overtasked

3. *Mrs. Davis.*—I should say that more girls begin the artificial flower trade at 10 years of age than at 12 ; they have often been at a smaller place before they come to a house like Mr. Lockyer's. After they once have begun to work they don't ever get much schooling. Half of such little ones never learn to read till they grow up. I don't think that many of those who would be here in the day time are sent to school by their parents now while it is slack. They take holiday now. We have two or three days' holiday at Easter and at Whitsuntide ; three oftener than two.

4. *Miss Mann.* — I am 24. I have often worked here till midnight, and later too. I have done so for three weeks together on every night but Saturday ; we leave on that day at 2 or 3 p.m. I should begin work at about 10 a.m. I get quite knocked up at the end of the week, and am glad enough when Sunday comes. Many work as late as that ; some who are only 16 or 17 years old ; but the very young ones usually go earlier, unless they are waiting for a mother or sister to go home with.

5. Mr. Vernon, Hall Street, City Road.

When we are busy I have more than 100 on the premises ; most of them are young women between 15 and 25 ; I should say that 35 out of 50 would be under 18.

For my own part I should be very glad to have a regular system of hours enforced, and would give any scheme to secure it all the assistance in my power. But the difficulty will be to reach the small employers. Any regulation to be useful must comprehend them.

It is impossible, as the trade is now conducted, to have any system of fixed hours at this or that particular establishment. Only last spring I said that I would not have any child stay here after 7 p.m., but the consequence was that I lost some of our best hands, and had to give up that rule ; for there are many places where they never attempt to interfere with them in such matters, so they go off to them. There is no notice of discharge given on either side. We pay on Friday, and are never sure of having the same lot on the Monday that were with us on the Saturday. Some are no doubt steady, constant, and regular, but most change about to any place where they happen to hear of a good shipping order going on. The American war has affected us very much ; a great number of our girls, finding trade dull for the last year or two, have gone to percussion-cap making and the sewing machines.

Another evil is, that the fashions now are so variable that we never make to stock ; indeed we almost have become retail manufacturers, and depend on special orders for City houses. They often give very short notice ; only yesterday, for example, I had an order by letter at 5 or 6 p.m. to be delivered without fail the next morning. I refused it, as I knew it could not be done without working very late ; but many cannot afford to be so independent ; indeed, the smaller men say to me sometimes,—It is all very well for you, but we must take the work when we can get it, and do it how we can.

I am quite sure that we could get through all the work we want in 12 hours, 8 to 8 might suit some, and 9 to 9 others ; but a fixed time of that kind would suit the hands admirably ; it would not do to regulate the children's hours alone, it must be for all the hands of all ages ; for the women bring the children to help them ; we have nothing to do with the hiring or paying the helpers ; those whom we employ we pay by the piece.

They generally waste a great deal of their time ; and get through as much in the last three hours of the day as in all the rest. Besides, no doubt our customers could always give longer notice than they do, and would do so if they couldn't get the work done otherwise.

Our great pushes are for six weeks or more twice a year, from the middle of April, and again from the end of August ; but even then they won't come early ; if they work on till 11 or 12 at night, they cannot be early next morning. We do, however, generally get the young ones sent off by 9 p.m. Yet they now and then will wait to go home with an older one. Only a night or two ago I made a great mistake by sending off a child who was staying late. I found out afterwards that she was helping a sister, and had some difficulty in keeping them from leaving in consequence of my interfering with them. Sometimes they stay for the mere warmth and comfort and companionship of the work-room, especially in cold weather, preferring that to going home to a room without a fire.

They usually have their hour and a half for meals, but as they are piece-workers, they please themselves. In the seasons they work through the meal-times often, particularly if there is a fête at Highbury Barn, or some such thing going on to lead them to wish to leave earlier than usual. In the slack time many get away into the country for 10 days or so.

We endeavour as far as possible to vary their work, so that one may not be day after day working on a very dazzling or a very dusty colour.

6. *Miss Wood* (forewoman).—I have tried to regulate our workroom, but it is more than I can manage ; they will come late and stay late. Some are regular, and work perhaps from 9 to 9 ; we have one family of three sisters who do so, and earn 24*s.* a week. We do not allow any to come in after 10 a.m., but at some places many don't come in till 11, or even 12. At one time we said we would have no children, but they would bring them. The number of children varies very much ; in one season, lately, we had as many as 14, but in another there was only one or two under 13 ; I do not think there are usually so many as 1 in 10.

Some of the workpeople always stay here and work for us, but most are what we call butterflies, and go off anywhere. They marry very young ; I should say that most artificial flower girls begin to learn the trade at 10 years old, and marry at 18.

I quite agree with all that Mr. Vernon says about it being an excellent thing to limit the hours, and am sure that all the work we want could be done between 8 and 8 ; but these small men, who have their wives and perhaps another young woman, and two or three little girls to help, working all together in the living room, if not the sleeping room—they must be limited, too, or else all of our work would go to them. But it would be hard on those who have only about six months of the year to make their living in, to be prevented from making all they can during that time.

There is no apprenticing in the trade now : the work is too uncertain. Sometimes a kind of flower which requires much skill is very fashionable, and then, again, all you want may be mere stringing together that any child can do ; probably they would be more regular if they were apprenticed.

There is nothing in what we use now that is positively injurious to health, but the light carmine and the brilliant blue do try the eyes very much, and the dust which they produce is beyond belief ; we actually have to keep other colours away from the part where they are using those for fear of their being spoilt ; it gets on the hair and the pleats of the dress, and lies quite thick on the table after a day's work. The opening a "cut" into the separate pieces of which it

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consists is always very dusty, and that is the children's business; the dust gets on to their eyelashes, and so into their eyes, I think, and irritates them.

If we could only secure a steady trade all the year round there would be no need for any ever to work more than 12 hours in a day: indeed, many a one can earn 12*s.* a-week between 9 and 7 p.m. But for the last three years business has been very slack; in the previous year we were very busy for nearly five months together, and the year before that, again, was that very wet year, and there was nothing doing at all.

7. *Eliza Gill.*—Am 12, began at 9 years old to help make flowers; there were about 20 there; have never been to school since I first went to work. (Reads very indifferently.)

8. *Mary Ann Yates.*—Am 10, began work at flower making a year ago; have been here six months; help an older one; she pays me 2*s.* and sometimes 2*s.* 6*d.* a week; come at 9 a.m. and never stay after 7 p.m.; go to evening school on Mondays and Thursdays from 7 to 9 p.m. (Reads words of one syllable.)

[9. Another girl, aged 15, had been at work for 3 years. During that time she had never once been to any day or evening school; she had forgotten everything she had learned before, and said she could not read the verse with which I had tested the other two. She looked very delicate. —H.W.L.]

10. Mr. George Elphick, Tuffnel Place, Islington.

We have now only two under 18, and 30 adults; all are women; September is our busy time, not July. We very rarely have children to work for us, and when we do they would be learners placed at a table by themselves under the superintendence of some one older, and not helpers each one to a different person. That is a common plan, but we will not have it here. Ten years ago we had 10 or 12 learners at a time, but they have grown up, and are many of them still employed by us; most that come to us now have learned something of the business elsewhere. The youngest we have is 15. We like them to begin early, at 12 or so; it is like learning to play the piano, their fingers must be supple, and have a fine touch; they are too stiff at 17 or 18 years old to begin then.

Artificial flower making is by no means so light a work as you might think. The thumb and finger get frequently sore and covered with blisters from working the goffers, and picking up and manipulating the very small pieces of material which they use. Sometimes they have their thumb-nails cut across right down to the quick by the constant friction of the wire, or the silk thread which they twist on the stalk. I remember one who used to be constantly employed in goffering had her hand bad for the best part of a twelvemonth. The continual rubbing of the warm iron inflamed her little finger so that she could not straighten it, and the whole hand was cramped.

Work commences with us at 9 a.m., the time of leaving is uncertain, and depends entirely upon the amount of work which each chooses to take out when she comes in the morning. This is wholly at the discretion of the employed, and as they are paid by the piece, their departure is regulated solely by their skill and the quantity they have to do. Some often stay till 11 p.m., and even later, and work in their dinner hour; it is quite voluntary with them. If they like to take out work for a day and a half, and get through it in the day, they are paid accordingly. Many of them need every farthing they can earn, and would be very much distressed if they were prevented from earning as much as they could in the busy season to make up for the absence of work in the slack time. Indeed several here, when they heard that you were coming, were very much alarmed with the idea that you wanted to prevent them from doing so.

The fact is that our late hours are the result of outward pressure, the irregularity of demand, and the haste attendant thereon. All our work is for wholesale city warehouses, we do nothing for retail shops, and in the present state of trade we can never fix any period for a particular demand. We now constantly have a number of small pressing orders; this has been worse in the season just past than it ever was before. We had 50 orders one after another marked "special," or in some such way, coming in at 8 p.m., perhaps, to be delivered without fail to-morrow morning; or an order at 11.30 a.m. to be delivered in the city at 3 p.m. on the same day. Then the duty being taken off French goods has, of course, considerably affected the trade in England, Under these circumstances to prohibit late work, when there is work to be done, would cause the loss of quite a third of the business, and totally put it out of the power of the hands to earn their existence, which is even now most precarious, and would inevitably lead to a large increase of the social evil.

But if this inquiry is intended to aid the worker and prevent the oppression caused by the heavy "day" or "task" work, its results must be most beneficial. There is a great deal of that in our trade, and it is among employers with whom such a system prevails, that you will also find the younger children in the trade. These persons agree in the first instance to give their hands a fixed weekly wage, calculated on the basis of their doing so much a day; after a little time they put the screw on, and work them up from four bunches a day, say, to four and a half, then to five, and even six by degrees, so that at last they get a day and a half out of them for a day's wage. It is especially on the children that this falls heavily, for they are of course much more frequently paid by time than by piecework. The same thing operates where the older hands are allowed to bring children to help them. Their object, of course, is to earn all they can, but the children are paid by them so much a day or a week, and get no benefit from the extra amount of work they do, while they are continually being urged on to "be quick" and to "look alive," and if not knocked about, are at least frightened or worried into over exertion.

A bad instance of the way in which such children who help older ones are overworked occurred in our own establishment some little time back; directly I found it out I put a stop to it, but it was only by noticing the state of the child's eyes that we were led to inquire further. She was about 13, and came to help an older sister, who used frequently to make her stay and work till 11 and 12 at night. We were told once when we found her there late that she was only waiting for her sister to go home with her, but that was untrue.

It is very trying to the eyes to have to distinguish by gaslight, or perhaps as daylight is failing, between different colours such as blue and green, or different shades of colour very nearly alike; and that a child would have to do in many cases. The mere putting the wire through the very fine holes in the centre of the little pieces of material, and the effort to observe which of two very nearly the same size should come next in order is, for a child and at such a time after a day's work, hurtful.

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11. Mr. R. Johnson, 120, Packington Street, Islington.

It is only within the last dozen years or so that employers in our business have had so many to work on their own premises. I employ about 100 hands now; it used to be very rare for 50 to work in one place. I take no learners; none of mine are under 15 or 16, and few under 18. Some three or four years back when I had fewer, I allowed them to bring learners to help them, but the little ones were kept late and cuffed about; and I had no benefit from them, but rather the reverse, so I ran the risk of offending the older ones, and refused to let learners come. I very nearly lost a great many, but none did leave me after all.

I have also succeeded at last in maintaining a rule about the hour of commencing work, and now I allow no one to enter after 9 a.m. I could not have done that when I employed only 20, but now I am not so dependent on their fancies. I have not yet succeeded in fixing the time for closing, but I have done some thing towards it; we now often leave off work at 10 p.m. when we are busy, and are seldom later than 11 p.m., and never work as we once did night after night till 1 and 2 a.m. It may take two years, or it may take 10, for I am obliged to do it very gradually, as I did the closing the doors in the morning, by 10 minutes at a time, but I intend, sooner or later, to do all my work between 8 a.m. and 8 p.m., and I am sure it can be done. When I began the trade I had to adopt the system as I found it, and at first we sometimes worked tremendous hours, but that at all events I have got rid of.

It is not those who work the latest that earn the most, but those who are steady and don't waste their time in talking and laughing. A good deal may be earned in this business. I have paid 1*l.* a week all round, and in some cases even 35*s.*; that certainly was when the "tremendous hours" I spoke of were still going on; but now I have at least 20 whose weekly earnings, taking the whole year through, busy times with slack, will average 15*s.*

A child ought to begin at 10 or 11 years old to learn our trade, but then she should never be kept as one child of 10 was here often till 11 p.m, That I stopped.

It is a very dirty trade, though you would scarcely think so. It takes three persons here every Saturday from 5 or 6 till nearly 12 p.m. to wash and clean the four rooms thoroughly. I have them lime-whitened twice a year, and where the walls are papered, have a fresh paper — a common one of course — every year.

I should say the cost of a complete set of tools of the best quality, including pincers and goffering irons, is under 5*s.* I supply those who work for me with what they want at cost price; for I can of course both obtain what are needed more easily, and buy them much cheaper at a wholesale house in a large number than they can at a retail shop.

12. Mr. W. H. Boulton, Quadrant Road, Islington.

I have 10 females now working for me; four are under 13, and four more between 13 and 18; the youngest is within a month of 12. Our hours of work are from 9.30 a.m. to 9 p.m., and they never work after that. I believe that the employer gets no profit from children or young persons working more than 9 or 10 hours a day. At the same time, I am quite aware that my way is rather the exception in the trade. I am myself, comparatively speaking, independent of the business; but many employers are forced, through the great length of our slack seasons—four months in the year—and foreign competition, to keep their young people at work till very late hours at night.

The extension of the railway system throughout the country has tended very much to encourage giving short notice. Purchasers now come up from Manchester, Glasgow, or Edinburgh once every fortnight or so to the wholesale City warehouses which we supply, and give small orders, requiring immediate execution, instead of buying from stock, as they used to do. Years ago we were always able to work in the slack times so as to meet the demand of the next season, but now no one can say beforehand what will be in demand then.

I am bound to admit that the French workpeople in this trade excel ours; they take so much more interest in their work and have a pride in it; ours use their hands—make up what you put before them—but do not use their heads.

The younger ones go regularly to evening school, at 7 or 6 p.m. on Wednesday, I think it is; nothing will keep them here then. That is often very inconvenient; it may well happen that an older one, who has two younger ones to help her, is prevented from finishing some special order in time, when two hours more help from them would have made all the difference. I would much rather that none came before they were 12 years old, and got all their schooling over by that time.

13. *Betsy.*—I worked 18 months ago at another artificial florist's in Islington, where they were always very late; I was there 18 months; their busy time lasted for two or three months each spring and autumn. There were a good many there; no children; but girls from about 15 years old: I was 18. I often worked there every day in a week till 12 and 1 a.m. from 9 a.m.; sometimes I worked till 2 a.m. All were on piecework, and worked as late as they liked. It was not only now and then at a push, but every day, week after week. It quite knocked me up, so I came back here, where I had been before. We are certainly in better health here than the girls there were. Girls of 16 worked as long as the rest; they very seldom took the whole meal hour, but worked through it. It was their own fault; I mean they might have had the full hour, if they liked; often the late hours were caused by not getting any work to do till late, and then that being wanted in a hurry.

[14. The girls in Mr. Boulton's employment seemed generally to have stayed with him for a long time; several said that they had been 5, 6, 8, and 10 years there; most had begun work at 10 or 11 years of age; one had come when she was only a little over 9.—H.W.L.]

15. Mr. W. B. Botting, Baker Street.

At our fullest time we should have about 130; we have at the present time 113 persons employed here; 14 of them are males; there are six girls under 13; all but one are over 11; that one is 10 years and three months old; 37 are between 13 and 18. They are all employed in making artificial flowers, except 10, who are preparing ostrich feathers; we have taken up that branch of business only within the last two years.

The men and boys are stamping out the leaf or colouring; three boys are between 13 and 18 years old. The only thing at all unwholesome, now that the arsenic green is not used, is the verdigris blue (sulphates of copper), which is applied damp to wreathes and not dusted on, as the green was; of that, however, very little is used now; five years ago it was very fashionable for evening parties in the winter season. None of those dusts need be injurious

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to the workpeople if the proper precautions are taken to cover the nose and mouth with gauze. The room in which these boys are is the hottest we have; it is made so by having the drying closet in it.

One of these boys, who is 14, cannot read; I have offered several times to let him go to night school three times a week and pay for him myself, but I can't get him to go.

We pay all our workpeople ourselves, the younger girls as well as the rest, though they are hired and brought by the others. We have different systems at different tables; some 17 or 18 are wholly paid by time, but most are on a mixed system of so much a day, and so much on what they finish at the end of the week. We have also a system of so apportioning the payments that the younger ones in a set may get a fair share of the payment for what the set does; so that, for instance, if the chief one happens to lose time in the week, the younger one or two with her who work on in her absence, may have some benefit of that work for themselves.

The learners usually come for a month for nothing, and have, perhaps, 1*s.* a week for the next month, then 1*s.* 6*d.* or 2*s.*, and so on, gradually rising; after some time they are able to work by themselves. A very fair sum may be earned in a respectable place by artificial flower makers, the average is certainly above 12*s.* a week; sometimes two young women working together make 30*s.* between them; sometimes a woman with a little girl to help makes 1*l.* and more without being more than 12 hours at work.

Our hours are from 9 a.m. to 9 p.m., but in the spring and autumn, for three or four months each time, they often work for an hour or hour and a half later than that. Those who are later have usually come latest. We have tried to enforce strict rules, but our good hands are all very independent, and as we had rather break our rules than lose them, the rules are disregarded. Very many will not come early whatever we say or do. They leave at 4 p.m. on Saturday. We used to pay on Friday nights, but found that so many never came on Saturday at all, that we gave it up.

Besides the hour for dinner and half hour for tea, they have ten minutes grace at the one and five minutes at the other. No doubt when we are busy the piece workers hurry over their meals; some will even eat their dinner at their work. We have a steam apparatus at which they can warm anything they like, so many prefer having their meals here to going home. Those who live far off, of course, do, and some live two or three miles away.

The younger ones have often to get up from their tables to fetch things, as you see; that is much better for them than having one to do all the errands for the whole room, as is sometimes the case; they can get a little exercise and stretch themselves.

The arrangements about waterclosets are too frequently neglected where young women work. I have heard many complain of other places where the smell from them has made the whole workroom offensive.

Flowers of the lowest class are frequently made at home; girls fetch from small men material for so many bunches, and are paid 2*s.* 6*d.*, 1*s.*, or 10*d.* a bunch, as the case may be; that is often hard work; as much can be earned at it perhaps as at better work, but they must work harder for it.

None of the six little girls under 13 have mothers or sisters working for us here. In some cases where I have wished such children to go home earlier than the older ones, they have told me that it was no use, for their mothers would not be in if they did, and they would have to wait outside the door.

It is more difficult than it used to be to get learners for artificial flower making; very many of the class that furnished them have now taken to the sewing machine, and though those are not perhaps the best of them, still that machine on the other hand requires a certain amount of intelligence, and so takes those who would be useful to us.

[16. The youngest employed here, a girl of 10, could not read, all the others of whom I inquired could. From the wage book which Mr. Botting showed me it appeared that many earned from 13*s.* to 16*s.* a week during the busy months; several earned more than that, some more than 20*s.*: the majority of the helpers were receiving from 2*s.* 6*d.* to 5*s.*]

17. Messrs. Foster & Duncum, Wigmore Street.

In the factory 77 females are employed, most of them in making artificial flowers, a few also in making feathers, all being work of the best kind. 17 of these are under 18 years of age, the youngest two being between 12 and 13. None are taken under 12. None are resident. 11 males are also employed here, two of whom only are under 18.

The regular hours are considered to be from 9 a.m. to 9 p.m.; but for about six months out of the season they leave at 8 p.m., as also do all who earn less than 7*s.* a week, even in the season; the younger ones, those under 14, leave at tea time, 5 p.m. Half an hour is allowed for tea and an hour for dinner; and the one in each party (averaging five) who prepares the tea is allowed 10 minutes extra for preparing and 10 minutes for clearing it away. In the season, three or four years ago, the majority had stayed, for about six weeks, from 7 a.m. to 9 p.m., but there had not been such a pressure since that time. On Saturdays they leave in summer at 5 p.m., in winter at 4 p.m. The employment is constant, as stock can be made in the slack time.

The younger ones assist generally for the first three or six months, and after that time receive a small weekly salary, rising from 2*s.* 6*d.* to 4*s.* and 5*s.* All are believed to have had some education; several attend night school. The work is done in parties of from four to eight persons. From the wage book it appeared that the average earning of the older ones is from 12*s.* to 15*s.* a week; four of one party, in a week in February which I selected haphazard, earned respectively 25*s.*, 17*s.*, 15*s.*, 6*s.* They are paid by the week, and not by the piece. Many have been employed a very long time by the firm; one woman had been there nearly 40 years.

Mr. Bannister informed me that the use of emerald or arsenic green had now almost wholly ceased throughout the trade; Messrs. Foster never use it in their factory.

Messrs. Martin & Co., Argyle Square, King's Cross.

18. *Mr. Clitheroe* (Mr. Martin's partner), informed me, that the busy season in the artificial flower trade is from March to June, and from September to the 9th November. The older hands during those months come at 9 a.m. and go away at 10 p.m.; the younger ones, those under 13, who come to help some of the others, and are paid by them, always leave them at 8 p.m., their work being merely to carry things about, or to use a small goffering iron, and generally preparatory, so as not to require a longer attendance. None of any age had in the last 12 months stayed after 10 p.m.; and such occasions were rare at any time. Some, but very few, came in times of great pressure at 8 a.m. About 160 were employed on the premises,

there being seats for 180; besides these many outdoor hands had work given out to them, especially for violets.

Since the introduction of the sewing machine into general use more difficulty was found in procuring workpeople. A large percussion-cap factory was also said to have attracted many from artificial flower making.

Most of the work was to order, and not for stock. Out of the season the greater number of hands are still employed, but on short time, leaving at 4 and 5 p.m.

The little ones earned from 1*s.* 6*d.* to 4*s.*; one was only 10; another of 12 had been there a year.

Mr. A. Austin, Sidmouth Street, Gray's Inn Road.

At the time of my visit (July) about 40 females were employed here, the youngest being 10 years old.

19. *The Forewoman* told me that the usual number in the season was 60, and that for about three weeks twice a year as many as 70 work there. She pointed out to me that the fingers and thumbs of the children were frequently blistered from constantly using pincers or plyers to separate the cuts or layers of petals into the pieces of which they consist. Threading transparent beads on grass to look like dewdrops, which also was children's work, was mentioned as very trying to the eyes if done by gaslight. Some of the children went at 7 p.m. to evening school, when not working till 9 p.m.; they very rarely stayed later than that.

In accordance with the suggestions of several employers, evidence was taken by me, with the permission of Messrs. Eley, Brothers, at their Percussion Cap Factory, in Gray's Inn Road. The forewoman there stated to me that the four following witnesses were in her opinion trustworthy.—H.W.L.

20. *Agnes Hafferman* (Sept. 1864).—I was employed eight months ago at an artificial flower maker's in Goswell Road. I was there for one year. About 50 females worked there; 10 or 11 of them were under 13; none under 11; I was 19.

Our regular hours were from 9 to 9, but in the season they were always longer. I should say that for six months out of the year we worked from 7 a.m. to 10 p.m. every night but Saturday, and sometimes we began at 6, and even 5 a.m., and worked till 12 at night. I worked about two dozen times from 6 a.m. to 12 at night; the younger ones were not so long at work; they did not ever come before 7 a.m. nor stay after 11 p.m.; their usual time in the season was from 7 a.m. to 10 p.m. We left at 9 p.m. on Saturday, and sometimes earlier.

All but the learners were on piecework. I only did the best work, but I never earned more than 10*s.* a week even when I worked three nights a week from 6 a.m. till 12 at night. I worked all the night through once or twice. Once was a Friday night; I went on till 5 p.m. on the Saturday before I went home; another time was a Monday night, and then I worked on till 10 p.m. on the next day. We used to be very tired indeed with the work in the season; the constant sitting hurts the chest; but I don't find that I am any the worse for it now. Face-aches were very common among us; I still suffer from that, but I think not so much as I did. The percussion-cap work at Messrs. Eley's is much better than artificial flower making, for the hours are regular and not half as long, and we have work all the year round, instead of having nothing to do for five or six months out of the year and working very hard for the rest.

It was not our own choice to work so; we were not allowed to leave till we had finished our work. Our being on piecework made us, perhaps, ready to stop, but we could not go whenever we wished.

The young ones breakfasted before they came: we, who began at 6 a.m., often had nothing to eat till 11 a.m.; but we did generally breakfast at about 8 a.m. Half an hour was allowed for that, and for tea at 4; an hour for dinner at 1 p.m.; and if we worked late we took some supper at 9 or 10 p.m. We often worked through the meal times, but the children did not. I think most of us ate our meals at the table where we worked.

The dust of the green, and the blue too, was bad; it used to fly about and get on our hands when we had to separate the "pieces;" if we had a cut it made it sore; we used to tie a handkerchief over our mouths and noses, so that nothing got down our throats. We had nothing to do with preparing or putting on the colours; men did that. We used to draw the poison out of our hands with soap and sugar.

Our fingers often got cut by the silk and wire; I have known a girl ill for a fortnight through sores made by winding the stalks.

I have been at other flower makers; at one where I was for six months, three years ago, there were 40 at work; I was the youngest, and was 17 then. We never worked longer than from 8 to 8; but I was not there in their busiest time.

21. *Sarah Weston.*—I was for three years and a half at an artificial flower makers near Smithfield; I left only last Christmas. When I first went I was about 17; none were under 16; nearly 100 used to work there. We never went there before 9 a.m., and sometimes not till half-past 9; in the season, for two or three months each time, spring and autumn, we usually worked till 11 p.m. I never worked all the night; the latest was till 2 a.m.; that happened more than a dozen times in the year certainly; we were not allowed to leave before that time if they had work which they wanted to get done. We used to be told in the morning, when the work was given to us, that we should have to stay late; if we finished what they gave us by the usual time for leaving we had more given us. We were on piecework, but that made no difference; sometimes we used to ask to be allowed to stay so as to earn more, but if we had gone home at 9 or 10 p.m., when we were wanted to stay till 12 or 2 a.m., we should have been sent off altogether.

Some complained of their eyes, but mine never hurt me. There was no bead-work there; that must be very trying to the eyes. I used often to get sick and faint; many did. I left because of my health; I think it was the long hours, and not the work itself, nor the room that hurt me; the room was a good size, and we were not crowded. The dust of the blue and green are rather bad, but we had not much of either; the carmine is bad, too, but it is only when the dust gets on the chest. I don't know that it is poisonous. I find the difference in working here is very great; we work regularly for eight hours in the day, and that does me no harm.

22. *Annie Clarke.*—I went to an artificial flowermaker at 12 years of age, and stayed there seven years; I only left eight months ago. They never had more than 12 there; all but one would be more than 16 years old; there was always one learner there of 12 or 14, who prepared for some of the rest. All worked the same hours; in the season I often worked every night in the week from 7 a.m. to

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11 p.m., but we always left off at 8 p.m. on Saturday. We worked till 2 a.m. six or seven times in the season, not more; we frequently worked through the meal times, but the young one never did.

The dust of the green and blue used to give us cold, but the worst was the chest aching so with sitting and stooping all day. I certainly suffered very much in health, and am much better now that I work only eight hours regularly. I believe that all artificial flower girls have to find their own tools; they are the goffering iron, cushion, pincers, and scissors.

23. *Mary Fisher.*—I went at 10 years old to artificial flower making; there were 19 there; some learners were younger than me, only 9 and 8 years old. We all worked from 8 a.m. to 10 p.m. on most days in the season but Saturday, then we left off at 6 p.m. Sometimes we had to work through our meal times; that was seven or eight years ago.

Six months ago I was working at another place near Aldersgate Street; 70 females were employed there; 10 or 12 of them were under 13; they only worked from 9 to 9. For the first three months they receive 1*s.* a-week as learners; at the end of 12 months they had 3*s.* a-week. Some might then begin piecework, but most would be learners for 18 months; I was there for three years. We older ones worked an hour later than the learners, till 10 p.m. in the season; we used to take work home as well, enough to last two hours; you were always let do that, even the little ones took an hour or half an hour's work home. About a dozen times in the season we stayed till 12 at night, never later; then we sometimes took work home, perhaps half an hour's work to do in the morning before breakfast.

It is a bad trade; there is nothing to be earned in the slack times, which last for nearly half the year, and for the other half you work so hard that that hurts your health. I have not been made ill by it, but many are; the chest is hurt by the stooping. I found the carmine dust, in opening the pieces, made me feel very heavy about the head; the green and blue are less used.

The fingers are continually cut; the forefinger by the silk, and the little finger by the wire, but that is not very bad.

I think the young ones go to some school generally in the slack season; I have known some go away to school for a couple of hours in the day, and come back to work again.

I can tell you I like making percussion caps much better; the hours are shorter, and the work better paid, and all the year round. I am quite happy at this work.

Mr. Isaac Samuel, Red Cross Street.

19 males and 50 females were employed here; one girl was only 10, and had been two years at work. The rest were all over 13, there being 9 boys and 20 girls under 18.

24. *Mr. Samuel*, after taking me over his premises and observing that he had wondered that Government had not before instituted some inquiry into the employment of children in the artificial flower trade, referred me to the following witness for further details.

25. *Mrs. Paine.*—I am forewoman, and have been here 19 years. From 9 a.m. to 10 p.m., or, perhaps, 11, is the very latest for any here, and I always send the younger ones home soon after 9. Mr. Samuel is different from many employers in the trade, for employment here is constant for the whole year.

They leave off at 5 p.m. on Saturdays, and have several days holiday at Christmas, Easter, and Whitsuntide. They have an hour for dinner and a quarter of an hour grace besides. They go home if they please for that. Many of them have some lunch at 11 a.m. That and their tea at about 5 p.m. they take here.

All under 18 are on daywork, so we give them a kind of task. Some are very lazy, but others work well, and I think that the room, as a whole, does a fair amount of work between 9 and 9. A girl at 14, if she is industrious, receives 6*s.* 6*d.* or 7*s.* a week. All are employed directly by Mr. Samuel, and are not each attached to an older one as is often the case. Where that practice exists they are often very badly treated by those whom they help, like little slaves in fact. They are not, perhaps, actually knocked about and hurt much, but there are other ways of ill-treatment than using hands to them; they nearly worry the lives out of them sometimes. It is at the best a very fidgetty work, and especially for young ones; the mere sitting so long is tiring for children.

We sometimes have them here younger than they should be. Parents do not hesitate to say they are two or three years older than they are to get them taken on. There is no apprenticing; they are paid something from the first. They all know the value of their earnings, and it is surprising to hear how they will drive a bargain when they come at 13 or 14, perhaps, to hire themselves.

I am sorry to say several of the younger ones here cannot even read. It is very sad to see their ignorance. Some of them do not even know their letters. The older ones can, most of them, read, but I recollect one young married woman of 24 who cannot. We have Sunday school teachers among them, and they sometimes give the others a little instruction. So far as my experience goes it is almost always the fault of the parents. I often overhear them talk of their homes and their fathers' habits. Some of the best educated are those who have had the greatest disadvantages, have, perhaps, lost their father, or have been of a large family.

The glass beads need not hurt their eyes. They don't take up one at a time but run the wire through a quantity of them. I always have them put on black paper by gaslight. The arsenic green is almost wholly disused now. When it is used it is for the leaves, and is never dusted on; but is first mixed with gum and other things, and spread moist on the muslin before the leaf is stamped out. There is no dust then from opening the cuts as there is from the carmine or the blue.

[26. This appeared to be correct. I saw the process of preparing the muslin, and opened several "cuts" myself, using the same motion of the thumb as is used in opening a pack of cards, but could scarcely detect any dust at all, and none of a green colour.

27. I afterwards examined the wage books, from which it appeared that in the spring time two hours overtime, or work from 9 to 11 p.m. was not uncommon for five nights in the week, but I did not find any case of work beyond that time.—H.W.L.]

St. Mary Charterhouse, Night School for Girls, Golden Lane.

28. *A.*—Am 12 years old; make flowers at a place where six others work. I am the youngest. We usually work from 8.30 a.m. to 7 p.m. When we are slack we leave at 6 p.m., and when we are busy we stay till 10 p.m. I have often stayed till 10 p.m. twice a week for several weeks.

29. *B and C*, (two sisters.)—One began artificial flower making at 9 and the other at 10 years old. No other children worked where they did. They often worked from 7 a.m. to 9. p.m.

[30. Several others, aged from 10 to 14, gave similar accounts. About half of them worked at home.—H.W.L.]

Central London Opthalmic Hospital, Gray's Inn Road.

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31. *R. Taylor, Esq.*, F.R.C.S.—Artificial flower makers are frequently seen by me as patients at the hospital. They suffer in one of two ways; either from that form of weak sight known as *Asthenopia*, which is common to all employments in which the eyes are continuously and carefully used; or from chronic inflammation of the eyelids. I consider that this is caused by the dry colour dust which is used in certain processes of the trade, and which is conveyed to the eyes either directly by the fingers, or by floating in minute particles in the air. The girls themselves attribute it to this cause. The arsenite of copper used for the bright green of some leaves, grass, &c., is by far the most injurious; it is, perhaps, the only really injurious pigment, but I cannot speak certainly on this point. It is not so much used now as formerly, and it is some time since I have seen a case of the disease in question. This may be merely fortuitous, but the same remark has been made by my colleagues. I have never seen a severe case; the disease has always been readily amenable to treatment. Girls who work in a neighbouring percussion cap manufactory suffer in a similar way. I have often seen the particles of dust adhering to their eyelids. Mineral would probably be more deleterious than vegetable dust, but my attention has not been drawn to the distinction between the two kinds. I have consulted my colleagues on the subject, and find that their opinions and experience coincide with my own.

MOURNING FLOWERS.

32. Mr. William Towsey, Bunhill Row,

Informed me that he employed about 40 females in the manufacture of artificial mourning flowers of a superior class. None of them were under 13, and only three under 15; most were from about 16 to 20 years old. Their regular hours of work are from 9 a.m. to 8 p.m., but for about six months in the year they work till 10 p.m.; some rarely come before 10 a.m. They have an hour for dinner at 1 o'clock, and half an hour for tea 4.30 p.m. He added, "I find, say, 9 out of "12 badly educated, can perhaps read a little, but not "write; and all of them have a very imperfect idea "of right and wrong. If they were taught by their "parents to believe in and to fear God in their infancy, "they would of their own accord try to improve their "education, and would be much better hands at their "trade, which requires some artistic taste. I cannot "procure sufficient hands who are respectably edu-"cated, though it is a very pretty trade, and highly "paid."

He had always found that the steadiest and most industrious workwomen were those most respectably connected and best educated. He objected to employ or to allow his workwomen to bring little girls to learn their trade, as they would spoil their work. Children were employed upon goods of a commoner class than those which he made.

33. Mr. John Damon, Eagle Street, City Road.

I employ 17 females in making flowers of various kinds, not wholly mourning, though that is perhaps my chief business. I have four girls here who are about 10 years old, some a few months younger and some a few months older; seven more are between 13 and 18. Very few, if any, manufacturers of mourning flowers in London employ more than I do on my own premises; most is done by men at home with their wives and some children to help. In Manchester, and I believe in Nottingham too, many more young ones are collected to work in one building than is the case here; indeed they are able by that means to obtain their labour cheaper than we can, and so are supplanting us in the market for the common goods.

We work for six months from 9 a.m. to 9 p.m.; and for the other six from 9 a.m. to 6 p.m. An hour is allowed for dinner, and half an hour for tea. We are able to manufacture stock because our goods do not spoil as the coloured goods do if they are kept; we therefore have work throughout the year; and though there is a season, are not pressed to work too long in it.

There is nothing in our branch of the trade at all injurious to health, except so far as all sedentary occupations are necessarily so. For that reason I try, even when we are busy, to send the little ones home at 8 p.m. From 9 a.m. to 8 p.m. is quite long enough for a girl of 10. I engage them, though they are paid by those whom they help. They are not ill-treated, for I am always about, and would not allow it.

[One little one could not read.]

34. Mrs. Stowe, Penn Street, Bridport Place, Hoxton.

I employ only six persons besides my own daughter, who is 13 years old; one of them is a girl of 13; another is 14½; the rest are all between 17 and 20. In busy times we have one or two more, but we are never more than 9 or 10 altogether.

Sometimes I have had learners as young as 11; one or two at a time; they help the older ones; 10 or 11 is a usual age for them to begin. They don't often stay after 8 p.m., and come between 9 and 10 a.m. Indeed many of them would be better off here of an evening than in their own homes, but their mothers wont let them stay late; 10 p.m. is our latest, but we do not work after 8 p.m. for more than about three or four months in the year, perhaps for six weeks at one time, and eight weeks at another, with a month or two of slack time between them.

They have very little learning among them when they begin so young. My husband used at one time to teach some of ours in the dinner hour; but he is too ill now; they might often go to evening school, and day school too, if their parents would send them.

It is a poor trade; any one can start as a crape flower maker who can buy a pair of scissors and some wire and some odds and ends of crape that would commonly be thrown away as rubbish; a guinea is a large capital to begin with. That's how it is that all the trade is in the hands of small people; scarce any employ more than we do, and most have less.

There is no profit to be made out of it; those that make it pay take something else in with it, coloured flowers, or crinoline, or fancy trimmings, but it is just two farthings for a halfpenny by itself, that is, when you've paid your hands and the gas in winter, when we have to light soon after 4 p.m.

Some will not come till 11 a.m., and then want to stay late, but we wont have that. Our extra hands are often with us only for a few days or a week or two, and then we don't want them any more, or they hear of some better work elsewhere, and so go off.

The black is not near so trying as white or red is to the eyes; they dazzle so. Sometimes we make loops of red chenille, but the white muslin is worst; I have known girls with their eyes nearly out of their sockets with making white flowers by gaslight in winter.

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MANCHESTER.

Mr. Waterhouse, Halliwell Street (Feb. 1863.)

35. *Mr. J. C. Waterhouse.*—When I first began in this business 4½ years ago there were scarcely 50 persons in all Manchester who made artificial flowers, and now I have nearly twice that number myself; there are quite 300 now altogether, and will be more and more. These are chiefly makers of crape mourning flowers; the manufacture of coloured flowers is yet quite in its infancy here; still I have had some made, and so have one or two more. The hands here are not skilful enough as yet, but it is a mere matter of time.

I find that 33 of mine are under 13; the youngest three are between 9 and 10. The majority of them are between 10 and 15 years old; they have to be taught young. Many a girl of 14, with nimble well-taught fingers, gets through more work than one of 24. All are bound for two years; they are paid about 1*s.* 6*d.* a week for the first three or six months; then they will earn 2*s.* 6*d.* A good worker of 15 years old may get 8*s.* and more; we pay by the week, but according to the amount they can do in the hour.

I don't like very young ones; the long sitting to work in one room is bad for them, but their parents come and beg of me to take them; they have scarcely any education. The forewoman upstairs says, that of the 50 or so in her room there are not a dozen who can read.

36. *Elizabeth Pennington.*—Am 12. Began flower making at 9; used to work then from 8 a.m. to 8 p.m., the same as now; never longer. Never went to day school; go to Sunday school; don't know who St. Peter was. Have heard of Judas Iscariot; know what he did; he walked into the sea and was drowned.

[This witness could not read large print without spelling her words letter by letter. Mr. Waterhouse informed me that her parents were usually in work, earning 1*l.* a week, and more.]

37. *Isabella Maguire.*—Am going 13; haven't been to school so much; not to day school at all. Know where Dublin is, and Cork, because I have been there; don't know in what country Edinburgh is. Can read a bit.

[This witness was the daughter of the forewoman, who was in receipt of 16*s.* a week; her father was also earning fair wages as a tailor. She could only read letter by letter.]

38. *Sarah Smith.*—Don't know my birthday; mother says I am turned 10; have been at flower making about 16 months. Never went to any day school; can't read.

39. *Emma Thompson.*—Am 12; have been here three months; was at silk winding before at a Jew's in Nelson Street. Worked there from 6½ a.m. to 8½ p.m. every day. Had 1*s.* 6*d.* a week for it. Several other girls were there. The master has flitted from that; the bailiffs came; he gave me 2*s.* to tell nobody, and flitted off. I can't read; can multiply; twice 5 is 10; five times 4 is 16.

40. *Mr. Waterhouse* subsequently stated that in his opinion the cause of so many children being sent to work at a very early age, and without going to school even up to that time, was to be discovered in the dissolute or improvident habits of the fathers, and the great mismanagement of the mothers, rather than in the poverty, which was the general excuse for their neglect One among several instances which he gave me of those in his own employ was that of a girl aged 10, who had been for several months with him, and was unable to read. Her father was a gasfitter, who earned on an average 2*l.* a week. Her mother frequently "did "washing and charing." The family consisted of two or three children at most. No money was put by. So long as the father was in good work they lived on hot bread and butter at every meal. If he were slack of work for a week or two, the mother would come to ask for an advance on her child's wages.

41. On one occasion, several years ago, Mr. Waterhouse had had to keep his hands at work all night, in order to complete a sudden shipping order for one of his largest customers. The order was dispatched at 1 p.m. on the second day, by which time, he said, nearly all of them were asleep. On the following morning none came to work till 10 or 11 o'clock, and they were then fit for nothing. He considered that on the whole he had rather lost than gained by the transaction, and this determined him never to allow such a thing to occur a second time.

42. Miss Doherty, 1, Booth Street.

I have been for 12 years in this business in Manchester; there is much more done here in that line than there was when I first came, and it is still a growing trade. I should say between 200 and 300 persons will be working in it in the town, chiefly girls from 10 to 16 years old; five or six employers, including myself, will have from 12 to 20 hands, and a number more will have six or seven working for them. It is all hand work.

I consider 12 my proper number, but we are one or two short of that just now; and I have work enough for 18 and more. I have advertized for extra hands and shall have them in a day or two most likely.

I do not wish to take any under 10 years of age; that girl who told you that she was 10, and had been with me for 18 months, told me she was 10 when she first came. She certainly looks older now, but many of them are very stupid, and don't know their ages, as well as being uneducated.

Long hours are not kept in any trade in Manchester now I believe. Our hours are from 8½ a.m. to 7 p.m. The general hours in our trade here are 8½ a.m. to 8½ p.m. I think no one, not even those quite in a small way, who do the commonest flower work, begin earlier or go on later than that; they may perhaps take them rather younger, and of course will pay them less than we do, for ours is the highest class of work. My brother, who is a commercial traveller in this business, has often told me, that in London, though they do not take them quite so young, they work them much longer hours. There, too, they have the coloured flowers, which are very unhealthy to work on. None of that kind are made in Manchester.

A learner we pay 1*s.* a week; after a girl has been a year with us she earns about 2*s.* 6*d.*; at 15 they probably average 4*s.* 6*d.* The eldest in our shop, who is a married woman, earns 9*s.* in the hours of work here, and frequently 3*s.* or 4*s.* more by the work she takes home. The children take work home sometimes; they like to earn an extra 6*d.* or 8*d.* a week by half-an-hour or an hour's work after tea now and then. No work could be lighter for them; they sit at a table on which the small pieces of crape are spread out, of which they make the flowers; the youngest twist crape round the wire which is to form the stalk, and they get on from that to making this kind of bud, and so on. They change about a good deal from one employer to another, but generally remain in the trade. Many are very poor, children of widows, or orphans, and have had no chance of going to school.

[43. Of four to whom I spoke here, all under 13, two could not read, and one could not write, but could read a bit. The work is certainly light, and they seemed to take their time about it. The room, though small, was clean and not close.]

OSTRICH FEATHER MAKERS,

LONDON.

Ostrich Feather Makers.

London.

Mr. H.W. Lord.

m.

Messrs. Vyse and Son, Wood Street.

44. *Miss Donohue.*—I have now 39 girls under my management, they are all employed either in scraping or sewing feathers, and have constant employment. Only six are under 13 ; they often begin at 11 years old.

Our hours out of the season are from 9 a.m. to 6 p.m. ; now (end of January) there is a little more to be done, so they stay till 7 p.m. We go on getting later and later now until the height of the season ; that is the worst of the business, that it comes all at a rush; for two or nearly three months twice a year we are very busy, our hours are then on the average from 8 a.m. to 10 p.m. ; we have on rare occasions worked from 7 a.m. to 11 p.m. The work certainly is very light, but, no doubt, for the little ones, at all events, the hours are very long. I must own that I do not like to say I can't get an order done, when it is brought me. I do like to do all there is to be done.

When I came here three years ago there were only 12 hands in the feather department. The feather business has certainly increased in the last 18 months, and there has been a scarcity of good hands ; perhaps I have done all I could to "push" it. Whenever I can manage I send the little ones home earlier, but even I myself have felt too tired almost to walk to catch the last omnibus home. I try also to relieve the younger ones from the sedentary position by giving them errands to go on about the premises.

They do really keep their health very well. I assure you they never knock up, even in our busiest time ; still I can't help thinking that it must tell on them sooner or later However everything here is in their favour, for the whole arrangements of the establishment are most excellent ; they have a separate room in quite another part of the building for their meals, for which ample time is always allowed ; their clothes are always taken care of and dried for them if they come wet. Now and then I have heard that some of them had left home without their breakfast. I have always then sent them in to the kitchen for a cup of tea or coffee and something to eat. I do not know if Mr. Vyse knows that I have done so, but I am sure he would approve of it if he did.

Last season this room was dreadfully warm ; we are obliged to have a good light, and so in the autumn must burn gas a good deal, and yet from the nature of the work we cannot have the windows open much for fear of the blacks or damp spoiling the feathers. We have more room now, but shall probably have 18 or 20 usually in the room. The staircase which leads from this into the room above has no door, and there are only a few up there, so that we have some ventilation in that way.

They all, as you see, have chairs with backs instead of mere benches ; that gives them a great rest. We have to teach them the work at first, but there is no apprenticing or premiums. I might, perhaps, get more hands when we are very busy, but I am very particular in choosing them, for one bad one will make so many go wrong that I don't like to have any whose character I don't know to be good. Several of those now here have been for some years with me ; they have 2*s.* 6*d.* a week for the first six or nine months, and with their overtime earn 5*s.* and 6*s.* sometimes ; they rise up to 10*s.* and 12*s.* by degrees, and then make with overtime 18*s.* and 19*s.* a week. All of them can read and most write, I believe ; I know that by often giving them the written orders to work from.

45. *Rachel.*—Am 14; have been two years here; have worked for four days running from 8 a.m. to 11 p.m.; wasn't tired that I know of.

46. *Jessie.*—Am 19; have been five years at this work; was in —— Street before I came here ; there were nearly 60 there ; all girls of the same ages as we are ; I was there for 15 months ; we worked longer hours there than here ; I worked for several weeks, day after day, from 9 a.m. to 12 at night ; so did most of them ; the youngest there got 2*s.* a week ; they worked about the same as the rest. I like beginning early much better than working late ; but I don't think we get very tired here.

[47. Another girl of 15, who had been four years in the feather department, told me, as she was showing me the way to another room, that the long hours made her very tired. I am inclined to think that the others fancied that the forewoman would not like them to admit this. I am, however, quite sure that she only wished them to tell me the truth. —H.W.L.]

48. Mr. Sugden, Junr., Aldermanbury.

We employ girls to make up feathers ; from 25 to 30 are on the premises ; the youngest is past 13 ; the chief seasons are from March to May, and from September to November, perhaps 10 weeks each time ; we give out work also.

Our usual hours are from 8.30 a.m. to 7.30 p.m. ; for all after that they are paid overtime ; they never work after 9 p.m. ; the younger ones have 1*s.* 6*d.* a week at first, and are raised about a shilling a year ; all are paid by the week ; the older ones earn 14*s.* and 16*s.* We have flower hands also; they earn rather less, 12*s.* and 14*s.* ; they are of a rather better class than the ordinary flower-making girls, and are chiefly employed in finishing and on the best work.

All are very careless of ventilation ; they will have in the summer time a large fire in their room to cook their meals by, and no window open ; one fainted away last season from that cause alone. I do not think that either feather or flower hands in city houses work longer than we as a rule, nor do they employ them younger ; it is in the smaller places in outlying districts that children are employed, and for long hours.

[49. The mother of one of the girls employed by Mr. Sugden, whom I met with when inquiring into another branch of trade, gave me a very similar account as to the hours of work, wages, &c., of her daughter. She however never allowed her to work after 7.30 p.m., as the girl was only 15, and she thought that working from 8.30 a.m. to 9 p.m. was too long for one of her age. The work had agreed with her daughter very well, and in the three years, during which she had been at the work, her health had not suffered at all.—H.W.L.]

St. Mary's Charterhouse Night School.

50. *A. K.*—Am 14 ; make feathers at a place near here ; a good many work there ; all are females, some younger than me ; some look about 9 or 10 years old ; I know some are under 12. I used to be a flower maker, and before that was an envelope folder ; went to that at 10 years old ; used to work there from 9 a.m. to 9 p.m. ; have never worked longer than that anywhere.

Ostrich Feather Makers.

London.

Mr. H. W. Lord.

m.

Messrs. De Pinna, 42 & 76 Fore Street.

62 persons were employed at the two houses; all but three were females; six being under 13, and 19 between 13 and 18. Of the three males, two were between 13 and 18.

51. *Mr. De Pinna.*—Very few employ more than we do in the feather trade; most have only seven or eight hands working for them, and few of them are children. The mothers always make them out older than they are. We should prefer to have none under 16 years old. It is very different from the artificial flower trade. We should want seven or eight times as many hands as we have to turn out the amount of work we do, if we were in that trade. We hire and pay the children that work here; they have 3*s.* 6*d.* or 4*s.* 6*d.* a week. They help the older ones by preparing their work; what they do is chiefly clipping the feather or twisting it. The older ones are almost all on piece-work. Our latest time is 8 p. m., and they come at 9 a.m.; but some do not come till 10 a.m., and they often leave at 6 p.m. If we want more work, we allow them to take one or two dozen home to sew. They have an hour for dinner at 1, and more than half an hour for tea at between 4 and 5; they have that here, but go out for dinner.

52. Mr. M. De Costa Andrade, Wood Street.

15 males and 24 females are employed here; none are under 13; 5 lads and 8 girls are under 18. The usual hours are from 8½ a.m. to 6½ p.m. with an hour for dinner and half an hour for tea. For four or five months in the year they stay till 7½ p.m., but not later.

LIVERPOOL.

53. Mr. Mudie, Mount Pleasant.

Liverpool.

We employ about 12 young women in curling and mounting feathers. I and my wife do all the dyeing. We sometimes take girls as young as 12 and bind them for 3 years. They are of the same class as good milliners, and have 10*s.* or 12*s.* a week when on journey wage.

None sleep here. Our hours are from 8 a.m. to 6½ p.m. On Saturday they go at 1 p.m., and on Friday stay till 9 p.m. generally speaking.

There is one other feather dresser in Liverpool; he employs rather more persons than we, for he also makes military and funeral feathers; but men are employed to do that.

Artificial flowers are not made in Liverpool.

REPORT on BOOTMAKERS, TAILORS, HATTERS, GLOVERS, &c.—By Mr. H. W. LORD.

To Her Majesty's Commissioners.

Bootmakers, Tailors, Hatters, and Glovers, &c.

Mr. H. W. Lord.

N.

Gentlemen,

1. My Report on the manufacture of wearing apparel, presented to you last year, was confined in its subject matter to female labour. In several of the branches of trade comprehended within the second part of that report, lads under 18 years of age are also employed in considerable numbers. (2nd Report, p. 83, C. 118.) The most important of these are boot and shoe makers, tailors, hatters, and glovers. Boys are also occasionally employed in particular departments of some of the other trades there noticed; as, for instance, in pressing crowns for bonnet-shapes, and in stamping out leather for belts and braces; but their occupation is so limited and their number so few, as to render any separate reference to them unnecessary. The state of their education is rather lower than that of the rest.

2. The following table of the four above-mentioned trades is derived from the Census returns for 1861:—

Numbers of Males employed in London, and in England and Wales, as Bootmakers, Tailors, Hatters, Glovers.

		Under 15.	15—20.	Above 20.
England and Wales	Bootmakers	9,442	50,756	175,536
	Tailors	3,537	23,475	94,212
	Hatters	254	1,896	9,515
	Glovers	288	805	2,461
		13,521	76,932	281,724
London	Bootmakers	1,004	7,594	28,891
	Tailors	375	4,151	20,292
	Hatters	61	524	2,497
	Glovers	3	87	313
		1,443	12,356	51,993
Total in London and in England and Wales		14,964	89,288	333,717

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3. In the course of collecting the evidence upon which my former Report was founded, I availed myself of the opportunities then afforded me for observing and procuring information as to the employment of boys in those trades. A considerable portion of the information so procured has been already printed in the evidence which accompanied that Report. I have subsequently received communications relating to my present subject from several of the employers in provincial towns, whose works I had before visited; these, together with the results of further enquiries, made by me personally in the metropolis and elsewhere, make up the evidence sent herewith.

4. In calling your attention, as I now propose to do more particularly, to the details of juvenile male labour in the trades above mentioned, I shall have occasion to refer to both the above-mentioned sources of my information.

BOOTMAKERS.

Age.

5. I have met with several cases of boys being employed to help rivetters in factories as young as 10 and even 9; the majority, however, do not work in large factories till they are nearly 11. Most boys who work either at home or for journeymen are not more than 10 at starting. Their work is usually the old stabbing, or closing, or stitch work at the seat, as opposed to the new methods of closing with the sewing machine, and "making" (putting the soles on) with rivets.

6. The manufacture of "ready made" boots and shoes in London is carried on for the most part in the neighbourhood of the Hackney and Bethnal Green Roads; boys here begin sometimes at eight years old to help their fathers at home; such is the case also at Leicester, Northampton, and Stafford (2nd Rep., pp. 168, 173, Nos. 322, 357); at the two former places some were even working for journeymen at 7 (*id.*, 318, 327). At Anstey, a village near Leicester, boys are said to have begun at 6 years old sandpapering or paring for a finisher (No. 26).

Number.

7. At some factories in Leicester and Northampton as many as 300 men and boys are employed; at one, even in London, there are as many as 200. These estimates include those employed in the warehouses, which usually form a portion of the same premises. In many cases, however, comparatively few are employed on the premises of the employer in any process of manufacture, a very common practice being to have the material cut out there, and distributed from time to time to the closer, the maker, or the finisher (journeymen working at home), each of whom completes his portion of the work, and in the first and second case returns it to the warehouse for re-distribution.

8. The finishing is almost invariably given out, not, however, in all cases to one man working with his family at home; the finishing of rivet work in Leicester, the home of that branch of the trade, is constantly done in places where from 10 to 20 work together, one-third of whom often are children under 13 (2nd. Rep., p. 167, No. 318.)

9. As in the case of "closing" the upper leathers with the sewing machines, so in the novel process of fastening the uppers to the soles by means of rivets, the employers have not yet determined as a body whether it is better to have their rivetters on their premises, or to let them take their work home. The former is the usual practice at Northampton, the latter is the more common in London, and it is said that the tendency in Leicester is in the direction of home work (No. 24); in London, however, a certain number of rivetters, from 12 to 30 men and boys, is still frequently to be found employed at the warehouse.

10. The combined effect of the introduction of the sewing machine for closing the uppers, and of the system of rivetting the soles on to them, has been to reduce considerably the number of those who follow the old craft of stitching at the seat or with the clamps. If the American machine* for sewing soles prove as economical in the long run as it certainly is ingenious as a scientific experiment, the large number of boys now engaged in rivetting will be materially reduced.

Hiring and wages.

11. Boys are seldom formally apprenticed now, except in the bespoke or retail trade, and even in that case it is to the working master of a small shop, or to the journeyman who works at home for a large shop, rather than to a master in a large way of business, that a boy or two is now and then bound. Some are in-door apprentices.

12. In wholesale houses lads are taken under a quasi apprenticeship to the employer to learn clicking or trenching, each a mode of cutting out the upper leathers; they receive from 10*s.* to 20*s.* a week, living at their own homes.

13. Journeymen in the sewn trade sometimes take learners under agreement for two or three years; but for rivetting so little teaching is needed that they are said to pick their boys up out of the streets; these, whether working at a factory or at the home of the man whom they help, are hired and paid by him.

14. Finishers also take boys under agreements for short periods, paying them from 3*s.* to 8*s.* and 9*s.* a week in London. Rivetters' boys get from 2*s.* 6*d.* to 5*s.* at "chamber work," but in factories as much sometimes as 8*s.* and 9*s.*

15. Boys of 11 at the wholesale sewn trade have worked 14 hours a day for 5*s.*, and one at 12 years old worked from 6 a.m. to 10 p.m. constantly for 7*s.* a week, nothing being given for overtime in that case.

16. Children who learn to "stab" at Northampton usually receive nothing for the first six months, and after that begin with 1*s.* or 1*s.* 6*d.* a week.

State of places of work.

17. The rooms where the clickers cut out material for uppers are, in most factories and workhouses, clean and light; in some recently erected they are even fairly ventilated. The rivetters are not so well off; their work-places, in London at all events, are frequently overcrowded and usually close and dirty. One, which the foreman assured me with pride was the best in London, contained 216 cubic feet of air per head and about 400 to each gas jet, and the contrivance for ventilation was of a very rude and ineffective character; yet, so far as my experience goes, the statement of the foreman was correct. The great heat of the gas is a constant source of complaint both in London and elsewhere (No. 422, p. 193, 2nd Report.) Some have erred on the side of excess in ventilation, and bronchitis has been attributed to draughts arising from the size and height of the workroom.

18. At the same time such places are usually very superior to any accommodation possessed by those

* A patent of the Blake Boot and Shoe Machine Company. See Evid., Nos. 1, 2, 5.

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who take work out, whether they work at home, or, in the case of rivet work, in the rooms of middlemen who let benches to different journeymen. Their houses are described as "miserable hovels:" their workrooms as "dreadful places, underground kitchens." (Nos. 4, 13.) With finishers this is even worse than with the rivetters or the seatsmen, for the work is more dirty, and stoves or gas jets in which they heat their tools are constantly burning on the low table at which they work "packed as "close as they can sit." (2nd Report, Nos. 318, 319, 421, pp. 167, 193.)

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Hours of work: 1. In factories.

19. The usual hours of work in London factories are from 8 a.m. to 7 or 8 p.m., with an hour for dinner; these are, however, frequently exceeded in the busy season to the extent of from two to four hours, and for periods of from three to six months in the year altogether. The summer is the busy season. Mr. Pocock states their hours for the six summer months to be from 6 a.m. to 7 p.m. (No. 1.) Mr. Hickson considers their work to last from 7 a.m. to 9 p.m. for three months in summer (No. 5); while at Messrs. Homan's, after working four hours overtime for a fortnight shortly before my visit, the men themselves had applied to have it reduced to two hours, on the ground that such continuous protraction of work was too exhausting even for them, and it was believed that as much effective work could be got through after the reduction as before it. (No. 4.)

20. In large factories in Northampton the ordinary hours are 12 in the day, including an hour for dinner and a half hour for tea; in some cases an additional time is given for lunch in the morning. These hours are occasionally exceeded to the extent of two hours, but not altogether for longer than a month in the year. At similar places in Leicester the hours are from 8 a.m. to 8 p.m. in winter; from 6 a.m. to 6.30 p.m. in summer, with an hour and a half for meals; here also there is an occasional excess of one or even two hours, but it is an unusual thing for the work to reach two hours overtime every night in a week; the same may be said of Stafford.

2. "Garret" and home work.

21. Whatever work is taken out to the home of the journeyman, or to the small workshop where three or four of such men with their boys work together, more or less irregularity in habits and hours of work is an invariable characteristic; the early part of the week being wasted, and the fair work of six days being crowded into three or four. This remark is equally applicable to the wholesale and to the retail, to the London and to the provincial trade.

22. One lad states his hours, at 12 years old, to have been usually from 7 a.m. to 8 p.m., but once or twice a week from 6 a.m. to 10 p.m. when busy; he was then working for a journeyman in the east of London. (No. 3.) Another had worked, under similar circumstances, from 7 a.m. to 10 and 11 p.m. very often (No. 15), and a third from 6 a.m. to 10 p.m. constantly (No. 14); the last-mentioned often began to work at midnight on Sunday. The same witness states it to be a common practice for those who make cheap common goods in that district to work through Sunday, and adds, in despair of giving me any more exact account, "to such work there is no end and no beginning."

23. These are instances of "stitch" work; rivetters are said not to work so long, and this to some extent is true; at the same time one witness has frequently heard rivetters' boys say they were going to work all the night on Friday (No. 12), and another speaks of "some of them" working at home from 7 a.m. till 10 and 11 p.m. (No. 15.) It is worthy of remark, that one manufacturer gave up employing them on his premises because he "found that their habits were too strong" for him: "the "men would not come in to work till 11 or 12 in the morning, and would not leave till 11 or 12 at "night." (No. 11.)

24. So it is stated that London may be taken as a type of Leicester in this respect. (No. 27.) There boys work frequently with the finishers, whom they help, from 6 a.m. to 9 p.m. "They cannot get to "our 'free classes,' and those that do, fall asleep from exhaustion." (No. 319 a, p. 167, 2nd Report.) Again, at Northampton, the finishers, makers, and closers, who take work out, waste the beginning of the week, and "work all manner of hours at the end." (No. 28.) And cases have been known, though they are rare, of children and all beginning at 4 a.m. and earlier on the Saturday, in order to leave off at 2 p.m., and not stopping for any meals till their 2 o'clock dinner. (2nd Report, p. 170, No. 328.) At Stafford, likewise, from 12 to 15 hours a day is the common time for boys of 10 to 12, who put the stitches in for the makers. (No. 30.)

3. Retail shops.

25. The ordinary hours for apprentices at small shops, both in town and country, in the retail trade are said to be from 6 a.m. to 8 p.m. in summer, and from 8 a.m. to 9 p.m. in winter (No. 20); these are, however, exceeded at all events in particular instances, while "there are plenty of boys working for "journeymen who go on for 16 hours a day." The young man, whose evidence I have just quoted, had learned to take snuff at 14 years old to keep himself awake. (No. 24.)

26. This witness considers 12 hours at the stitch work quite long enough for any one, "allowing an "hour for dinner out of that." Another very respectable man, in a small way of business (No. 19), thinks that even 12 hours is too much for a boy of 15, unless varied; while the opinion of a third is, that 13 hours, with one out of them for meals, cannot be too much for a boy of 14. (No. 23.) Another, in the London wholesale trade, thinks from 8 a.m. to 7 p.m. quite long enough. (No. 11.)

Holidays.

27. Work usually ceases on Saturday at 4 or 5 p.m. in London factories; in provincial towns at 2 p.m. In the retail trade Saturday is often the latest night of the week, but the apprentice is in that case more frequently employed in minding or serving in the shop than at the seat.

28. Christmas day and one or two days following are usually observed as holidays in factories; part or the whole of either Easter or Whit Monday, and sometimes of both, is also taken, and in most cases Good Friday.

Meal times.

29. In factories regular meal times are almost always observed; in home work with journeymen or small garret masters, as might be expected, there is often but a short time allowed, and the food is often taken at the work when there is any motive for haste. One witness mentions extreme cases of children working from 4 a.m. till 2 p.m. on Saturday without stopping for any meal. (2nd Report, p. 170, No. 328.) Another reckons an hour in all for the meals taken during the 13 working hours: "You "can just come down and take them, and go back to your work at once." (No. 19.)

Nature of occupation.

30. The clicker stands up at a table, using a round knife, with which he cuts uppers or linings from the piece of leather or "stuff," which is laid on "the board," a wooden slab, before him. In the wholesale trade thick leather for soles is most usually stamped out by a machine press, which is frequently worked by steam.

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31. Those who make up the material into the boot consist of three distinct classes, closers, makers, and finishers. The closer sews together and completes all the upper part of the boot, including the lining, tongue, side spring, &c. For all women's and children's boots, except the best "bespoke," and the very commonest kind, closing* is now done by the sewing machine, and therefore is in the hands of females. Boys however, as well as girls, are employed at small places to paste for fitters, and to tie the ends of the thread after machining. (2nd Report, p. 170, No. 328.) The machine is also used in the ready made trade for the lighter kind of men's boots; but heavy boots, and particularly Wellingtons and Bluchers, are still closed by hand. The closer sits in a low chair, the pieces to be joined are placed between the two arms of clamps, a kind of wooden forceps held between the knees with the butt end resting on the ground; the holes are then stabbed in rows with the awl, and the two threads tipped with bristles are drawn through in opposite directions—the familiar action of a cobbler sewing with both hands, elbows outward, the awl being retained in the right hand. I have met with more than one case of the loss of the left eye from an accidental blow inflicted by a fellow workman with an awl thus used. Mr. F. Bostock states that this was no uncommon thing, before the general use of the sewing machine, if the children who "stabbed" were too closely seated. (No. 321, p. 168, 2nd Report.) In another instance a boy put out his own eye through the awl flying up, as he was loosening a nail that fastened the sole to the last. (No. 15.)

32. The mode of "making," or putting the soles on to the uppers, was formerly similar to that above described, except that the soles and uppers had to be "lasted up," and, when fixed on the last, were held by the stirrup across the knee instead of between clamps. When soles are not rivetted, this is still the mode adopted. It is obviously much more laborious than closing, not only because of the greater thickness of the substance to be penetrated, but also because a lower stoop is necessary, and "in parts "of it they press the heel of the last right into the pit of the stomach." (No. 13.)

33. But in the wholesale trade rivetting has for the present to a very great extent supplanted the use of the awl and waxed thread of the cobbler in "making." The sole is now pricked with holes by means of a light machine worked in a very few cases by steam, but usually by the hand or foot of a lad or child. Into each hole a rivet or nail is hammered by the boy who helps the rivetter. When several rivetters work together, the room is fitted with long narrow tables like shop counters, which are divided into compartments called benches, each bench being long enough to admit of a man and a boy to stand side by side at work. In each bench are fixed two iron rods, upon which moveable iron lasts are placed. The man lasts up, or fits the material over one of these lasts, lightly tacking the sole to the upper leather, and then passes it on to the boy, who with an old file drives the nails into the holes made by the pricking machine, until they pierce the part of the upper leather placed in contact with the sole, and their points meeting the iron surface of the last turn so as to form a rivet. The boy's work is, in fact, in the words of a witness of the old sewn-work school, "more like carpentering than boot-"making." (No. 12.) The nails, which are of iron, or more often of brass, are for the sake of saving time held in the mouth, and presented by the tongue one by one on the under lip to the finger and thumb of the nailer.

34. From the maker the boot passes in its rough state to the finisher, who sits on a stool at a low table, having the boot either fastened on his knee by a strap which passes under his foot, or "stuck "up with one end on his thigh and the other against his chest," while he uses a burnishing iron with both hands. This is called "staking," and, though man's work, is often done by boys of 14. Younger boys rasp off the heads of the nails, rub with sand paper, and ink and scrape the bottoms of the soles. "Finishing," says Mr. Pocock, "is heavy work; it would be much less so, if they would use the "upright moveable lasts we have here, and stand up to the table, but the men who work at home do "not care to change." (No. 1, see 5, 8.)

35. In warehouses boys of 11 or 12 are employed to dust and clean the stock, to punch holes, and put eyelets and laces in, and on similar work.

Steam power.

36. At Mr. Crick's factory in Leicester, (No. 312, p. 166, 2nd Report,) steam power is used, not only for rolling leather and cutting or stamping out the soles, as is the case elsewhere, but also for pressing the nails into the heels, for pricking holes in the soles, and for cutting the metal sprigs or nails used in rivetting. The machine used for the last-named object is similar to that used for cutting bolts. I was informed that in the week preceding my visit 5,496 pairs of ladies' military heel boots were made on the premises. A few lads are employed in connexion with this machinery, but as a rule adult labour is chiefly used.

Effect of employment on physical condition.

37. The effect of the ordinary "sewn work" upon the health is acknowledged by all to be decidedly bad. At sewing, "a man for the first few years seems to become almost paralysed." (No. 5.) "Want of "air and exercise is the bad thing. I have myself often laid on my back after leaving the 'seat,' quite "unable to move." (No. 24.) "Most who have been brought up to that suffer from disease of the "chest or heart, for the work is sedentary, and they have to bend very much over it, and in parts of "it they press the heel of the last right in the pit of the stomach." (No. 13.)

38. In this respect the rivetter is far better off than the sewer, for he stands up to his work, and has the exercise of hammering. Several young men who had formerly been in the sewn work told me that their health had improved much since they had abandoned it for rivetting.

39. The habit of putting the brass nails into the mouth has been said to produce excoriations, and also disorders of the stomach. (No. 320, p. 168, 2nd Report.) Mr. Moore, the medical officer of health at Leicester, states the result of a special inquiry, made by him at my request, to be that "although many "cases of aphthæ and disorders of the digestive organs occurred, arising apparently from this practice, "he had heard of no cases of any very serious character." (No. 421, p. 193, 2nd Report.)

40. The noise made by the nailers in rivetting is very great. Dr. Faircloth, of Northampton, stated that this had in several cases led to nervous affections, where many were working in one room. (No. 422, p. 193, 2nd Report.) Indeed the greatness of the noise has in some cases driven the employers to cease to employ them them on the premises. (No. 1.)

41. The same evil that affects the closer or maker at sewn work exists to a more prejudicial extent in

* "Closing" is in strictness "seam work," as opposed to "stabbing," which is "through and through" work upon a flat surface: both are done by the sewing machine and by the hand "closer" also.—H.W.L.

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the case of the finisher by reason of the increased pollution of the atmosphere by the gas used for heating the tools. The pressure against the chest in "staking," which I have before described, is also very injurious. It is to be regretted that the men are not disposed to adopt the upright last in use at Messrs. Pocock's. This is set up on a rod fixed to a table, similarly to that used by rivetters, but having at the top an universal joint, so that the boot can be turned in any direction. The lad who was using this told me that, although he had been there only a few weeks, he found that standing was much better than sitting. (No. 3.)

Education.

42. The boys who assist rivetters in London, whether they work in factories or not, are very ignorant and uneducated. "The majority cannot read." (No. 9.) Even among those who might be supposed to be of a rather higher class, from the fact of their seeking work in the warehouse in preference to the rivetting shop, it is difficult to find any who can read and write properly when they are wanted. (No. 4.) The ignorance which prevails in the Hackney Road and Bethnal Green districts among the lads who work for the journeymen, whether in sewn or rivet work or in finishing, is spoken of as characteristic rather of the locality than of the trade. This may well be so, for it is now a matter within my own experience, that when the labour of a district goes on for the most part in the houses of the operatives, ignorance and disregard of education exist to a much greater extent than where the home and the work-place are totally distinct:—where the operatives meet for their daily labour in a factory, under a system of fixed hours, which controls their irregular habits, and if it admits of overwork, at least makes that also regular.

43. According to the statement of the foreman of a large London house, Messrs. Homan, the men themselves begin to appreciate this, and prefer to work in a factory where they are made regular in spite of themselves. (No. 4.)

44. As it is, not only children of 10 and 12 but well-grown lads of 15 and 16 are not able to read. "Why," said a finisher's lad who was intelligent enough to value the education that he did not possess, "I can't even read or write. I only know my letters; that is often so among shoemakers' boys, who "begin to work at home young, and go out soon to work for another man, as I did." (No. 3.) These remarks, however, do not apply to the apprentices in the retail trade, nor to those who, under articles or agreement, learn to "click" in the warehouses.

45. The state of education among the finishers at Leicester is very unsatisfactory. The "Minister to the "Poor," Mr. Dare, in his report for 1864 (p. 15), speaks of them as a class "amongst the most degraded of "the working population." In his report for the previous year he states that out of 18 boys of various ages from 13 to 17, attending free evening classes attached to the Domestic Mission, 14 were unable to read at all, and the remaining 4 could do so only very imperfectly; 12 of these had never been to any day school at all, and only one for so long as a year. Such is the state of 50 per cent. of those who attend. (No. 320, p. 168, 2nd Rep.) I believe that the manufacturers in that town feel this strongly. In my 2nd Report I drew your attention to the remarks of Mr. Walker (p. 92, C. 204). I now beg leave to note the readiness expressed by Mr. Crick, junior, to adopt any factory regulations which could be of general application. (2nd Rep., p. 167, No. 313.) And in conclusion I cite the words of another manufacturer, Mr. Charlesworth, with whom I have corresponded in relation to home work since my visit to Leicester: "I wish some method could be brought about which would reach the case, but, I "fear, nothing but a comprehensive, sound, and universal system of national education will approach "the evil. (No. 27.)

46. In Northampton, moreover, there seems to be a higher value set by the journeymen on education than in London or Leicester, and though one witness states that in the lower part of the town, where the largest amount of work is done, there is still dreadful ignorance and wretchedness, he considers the state of education in the town to be generally good. (No. 323, p. 169, 2nd Rep.) The master of the British Schools (No. 342, p. 170, 2nd Rep.,) at Northampton informed me that out of 300 boys on his books, with an average attendance of 240, there were 40 over 11 years of age, and 17 of them were children of shoemakers or closers. His experience affords another illustration of the fact, that when children leave school much earlier than they should, it is for home rather than for factory work.

47. It is gratifying to observe here that the introduction of the sewing machine for closing is recognized by the master as having had a directly appreciable effect upon education by enabling a large number of boys, who were before employed at "stabbing," to stay longer at school than they formerly did.

TAILORS.

Age.

48. Tailors' sons are said to commence to help their fathers at home as young as 10 and even 9 years of age; they are, however, seldom apprenticed before 14, and those who help the journeymen who take work home appear to be usually at least 13.

Number.

49. The number of lads being brought up to the trade is considered to be much smaller than it used to be. Various causes are assigned for this, the most prominent being the great and still increasing use of the sewing machine, which, as I have before observed (2nd Rep., p. 68, C. 6), has the effect of enabling females to do much work of a kind which formerly was too heavy for them. This, however, is as yet confined to the wholesale and ready-made houses. In first-class London houses it is very rare to find any under 18 years of age employed on the premises of the master tailor; occasionally a good workman is allowed by way of favour to bring his son to work at the board with him; the sons of master tailors also are apprenticed in London; but as a rule "West-end journeymen are made in the "country." (No. 35.) Tailors' work at the east end of London, which is nearly all given out, seems to be almost wholly done by women. One wholesale clothier stated to me that seven-eighths of those who work for him are females, and the rest male adults, who do the pressing and button-holing. (No. 43.)

50. It is probable that from this cause the numbers have diminished even since the last census; for there is no doubt that the sewing machine has in the interval become much more generally used. As a matter of fact, the lads whom I have found employed by tailors in London have been for the most part apprentices, one or at most two together, in small shops, and chiefly in the less central districts. Journeymen who take work home from West-end houses occasionally have an apprentice, but an intelligent member of that class stated to me that he did not know of any among his acquaintance who at that moment had one. (No. 36, and see Nos. 37, 39.)

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51. A signal illustration of the decrease in numbers was furnished to me by the books kept at the workhouse of the parish of St. James', Piccadilly, a parish in which the mass of the West-end journeymen tailors reside; yet no lad had been bound to that trade in the 18 months preceding my inquiry. (No. 42.)

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Hiring.

52. The system of apprenticing by formal indenture seems disappearing. I am unable to state whether the majority of those who are apprenticed live at their own homes or with their master; most who are apprenticed at small shops in the suburbs of London, live at the place of work. There are seldom more than one or two apprentices in one such shop at a time. In provincial towns some employers have three and even four apprentices, but all of these do not usually reside with their master. (Nos. 44, 45.) On the whole, most of the apprentices in provincial towns would seem to learn the business by working singly with a journeyman or a master in a small way of trade. (Nos. 47, 49.)

53. There seems to be a very general opinion among the men themselves that apprentices in the country are better off than those in London. They are said to learn the whole trade instead of only a portion of it; the tendency in London being to divide the labour, so that a man who makes coats forgets, if he ever learnt, how to make a pair of trousers. (Nos. 34, 41.)

Hours of work.

54. The hours of work in London shops in which apprentices are taken appear to be 13 a day, usually from 7 a.m. to 8 p.m., including an hour for dinner. An hour extra now and then on a push is the utmost overtime in such places; for the pressure of the London season does not touch them. The journeymen who take work home are affected by that season to an extent and for a period variously stated. One witness considers it to last only for eight weeks in May and June, and to be nothing like the dressmakers' season. (No. 31.) Others, who are perhaps more constantly brought into contact with the journeymen of the West-end, speak of work, and especially home work, for 15 and even 18 hours a day for several days in the week as still going on from April to July, and again from November to Christmas. "It is all a drive then." (No. 37.) And "the sons have to work as hard as the fathers while the work "lasts." (No. 31.) In some provincial towns the regular hours of work are 14 in the day, and where there are seasons of special pressure, as during term time at Cambridge, the men who work at home work almost day and night sometimes for a week together; whether the lads who work with them do so too, or only work for the less time mentioned by one witness, 5.30 a.m. to 9 p.m. (No. 47), will of course depend chiefly upon the character and habits of the master, but also on those of the apprentice and his parents, if he live with them.

55. Among such persons the irregular hours usually characteristic of home work are found to prevail, and, as might be expected, to arise from the two most common causes; one being the habit of the men to waste the early part of the week and work hard at the end; the other the practice of employers to avail themselves of that habitual irregularity when any extra work is wanted at a push, so that work goes on till 11 and 12 p.m. or 2 a.m., or as the usual phrase is, "all hours." (See Nos. 38, 39.)

56. This is universally allowed to be a bad system; "10 or 11 hours a day is quite enough for a grow-"ing boy," says one who has a son aged 15 working with him. (No. 36.) "I think," says another, who speaks with a vivid recollection of hard work, "it would be a good thing if all apprentices worked only "from 8 a.m. to 8 p.m. and had an hour for dinner out of that; it would be better for the lads and no "worse for the masters; but they are curious men, and think it does a boy no harm to work too hard "for half the year, if he is nearly idle for the other half." (No. 37.)

State of places of work.

57. Another reason for preferring a country apprenticeship appears to be, in many cases, the mode of life and state of work-place among the journeymen who take apprentices at the West-end. These are by all accounts wretched in the extreme. "The work at home," says one witness, "is very irregular, and "the work-places very unwholesome; the majority eat and sleep and cook and work in one room." (Nos. 31, 33.) "The stench," says another, "is enough to knock you down; you go to the door, "perhaps, and open it, but shudder to go further into the room. There are hundreds of such places "within five minutes' walk of this shop of mine." (No. 38, see 2nd Rep., p. 148, No. 221.) In such places several men often work together. In one case I found seven under one man, who took work out from a West-end house; these were all crowded together in one small attic in a back street near Golden Square. The owner of the room was very proud of the accommodation, saying, as he showed me in, that very few had a separate work-room thereabouts, but most used their living room for work and often for sleep too. Similarly the witness, whom I have already quoted (No. 36), told me without any hesitation, and apparently as a matter of course, that his apprentice, if he could get one, would sleep in the work-room.

58. You are already familiar with the account given by Dr. Ed. Smith* of the state of the shops in London, where tailors work on the premises of the employer. I have before stated that lads under 13 are as a rule not found there; but it is worthy of note that the general opinion in the trade is that, in London at all events, "from a sanitary point of view it is far better to work in shops than at home." (Nos. 31, 34, 38.)

59. In spite of the alleged superiority of work-rooms in the country, there is still great need for improvement even there. The following account of one is given by a witness who had worked in some of the best and some of the worst: "The really bad thing in our trade is the state of the workshops. At "one place where I worked the room was underground, and the heat of the stoves and stench of dung "and refuse from a neighbouring stableyard was quite sickening." (Nos. 44, 45.)

Nature of occupation.

60. For the first two or three years of their learning the trade the boys' work is limited to sewing of various kinds. Considerable manual strength is required in using the iron or goose for pressing; but I have not found that lads under 17 or 18 are commonly trusted to do that portion of the work. The work is essentially of a sedentary kind, and therefore productive of deficient respiration; at the same time the well-known attitude of tailors on the board is not, in Dr. Ed. Smith's opinion, productive, generally speaking, of roundness of the shoulders or contraction of the chest; he observes, however, that when such defects occur they are chiefly among the younger men, a remark with which my own less extensive observation as to lads fully coincides.

Effect of employment upon physical condition.

61. It is generally allowed that tailors are not healthy as a class, and the chief cause of this is generally

* Sixth Report of Medical Officer of Privy Council, pp. 419–421.

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recognized to be the state of the work-places. "I am sure," says Mr. Wood, of Brighton, after commenting on the want of proper ventilation, and on the great heat caused by the stoves used for heating the irons, "I am sure parents make a great mistake, when they put delicate children to our business; "it requires, at all events under its present conditions, a strong constitution." (No. 44.)

62. The report of Dr. Edward Smith, to which I have before referred, necessarily contains observations upon this subject so much more valuable than my own, as to lead me to refer you at once to it for further information under this head. If any further comment upon his conclusions be required to extend the application of them with even greater propriety to the younger members of the trade, it is afforded by this simple statement of a witness, who had himself been in the trade many years:—"I have brought "up three of my sons to the trade; one has been killed by it, and the other two look as pale as can "be; they were not naturally unhealthy; they are quite different from two other sons of mine, one "of whom is with an upholsterer, and the other with a watchmaker in the town." (No. 45.)

Moral condition.

63. The number of young persons, with whom I have actually come into personal contact, has in this instance been so small that I am not warranted in drawing any general conclusion as to their moral state. The men whom I have met with seemed intelligent, and had all had an education of some sort. One witness remarks that the children who bring their fathers' work in speak of going to school in the day time. (No. 34.) Another, after stating that the children of journeymen begin at 11 or 12 years old to help their fathers, adds "they become sadly precocious, and many know at 15 things they had "better not know at 20." (No. 38.)

64. The large shops where the adult operatives work together are, however, invariably spoken of as being bad schools for the morals of the younger ones. The same remark would seem to be generally applicable, but I have not found it in any other trade so generally applied as in this.

HATTERS.

Age.

65. Boys are not usually employed by hatters before 11 or 12 years old. I have met with some who have begun at 10, one was only 9 when he began at a large factory (No. 64); but where boys of that age work is generally in small places or at home. Lads are not apprenticed till 15. At some places between one-fifth and one-sixth of the total number of males are under 18, but at others the proportion is considerably below this.

Number.

66. In houses under the Trade Union,—fair shops, as they are called,—the number of apprentices is limited; an employer of ten men may have two apprentices, and one for every ten beyond the first ten. The "foul shops," though not under that restriction, do not take many more. There are always some other younger boys, who assist the men or are in the warehouse.

67. At Messrs. Christy's factory at Stockport 170 males were employed at the time of my visit, out of whom 29 were between 13 and 18, and three were under 13. At their London factory there were thirty-six lads under 18, the youngest being about 13. At Mr. Eveleigh's, in Salford, on the other hand, only four were under 18 out of 124 males. The total number of persons of both sexes employed at the manufactory varies considerably both in London and in Lancashire, amounting in more than one case to over 300.

68. Work is in some cases given out to be done by small employers who have three or four journeymen. This, however, does not prevail to any considerable extent, and the tendency has for some years been in an opposite direction, though some suppose that a reaction is commencing. (Nos. 54, 63.) In Lancashire and Cheshire, where most of the felt hats are made, the process called planking, by which the fur is worked up into a consistent substance, is usually carried on in sheds attached to the houses of the workpeople. (No. 293, p. 162, 2nd Report.)

Hiring.

69. Lads are formally apprenticed to the employer to learn the business; after a time they frequently receive a proportionate part of their earnings. At Stockport and Oldham I found apprentices aged 17 receiving 26*s.* 6*d.*, and one 42*s.*, in one week.

Hiring and wages.

70. In most places there are several boys, each hired by five or six men together, to fetch and carry things which they require for their work, or for their meals, &c. These receive from 4*s.* and 5*s.* to 12*s.* a week, according to the number of men whom they serve; when they stay beyond the usual time they receive something more. There is often a lad of 15 or so, "stoker" for each "shop," who is paid by the men. Lads employed in the warehouse or stock-room, and where machinery is used to "blow" the fur for felt hats, are paid by the principal. The apprentices are commonly taken from boys who have been before employed about the place, either in the warehouse or by the men in the "shop."

Nature of occupation.

71. Boys in the warehouse sort and box the hats; those who help the men run about on various errands, clean their boots, and sometimes cook their dinners. Lads of 15 or 16 "stoke" the fires for the irons; some rather younger varnish the bodies of the hats. Others of 13 or 12, where machinery is used for blowing and carding fur, the modern substitute for the "bowing and basoning" of former days, "feed" the endless felt, which carries the fur to the centre of the machine where the fan works. The proper place of these is at a distance from any wheels or straps, yet they manage to "get their fingers squeezed," (No. 61): but I have not met with any serious accident connected with the use of steam power in this trade.

72. In my former Report (177 C., p. 89, 2nd Report) I described the operation of "planking;" it is all hand work, and consists in dipping the fur from time to time into a vat or "kettle" of hot liquid, and manipulating it afterwards, by a sort of rolling and kneading process, upon a sloping lip of the vat to full it. Boys of 12 and 13 are employed at home in planking; some even at 10.

73. In all branches of the hat manufacture the workman stands to his work. The only part of the usual work of an apprentice, whether in body making or in blocking, or finishing, which requires notice, is the use of the iron. Considerable strength was formerly needed for this, inasmuch as the weight of an adult's iron was 18 or 19 lbs., and that of an apprentice 16 lbs.; now, however, the general substitution of silk for beaver has led to irons of less weight being used, those in the hands of an apprentice not being more than 11 lbs. Even this causes no slight strain upon the wrist; for it is not, as is the case with a tailor's goose, pressed down on the material to be ironed, but is lightly passed over the surface of it, so as to relieve but very little the weight of the iron hanging from the hand.

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74. There is also often a stout lad of 16 or so to each "shop," who turns a wheel for polishing the hats, as any of the men require it; this is heavy work, but not necessarily continuous.

75. The "shops," in which hatters work, are for the most part very close and badly ventilated; many are much overcrowded, especially in the busy time; some are extremely and unnecessarily dirty. Where open fires or stoves are used to heat the irons, the heat is very oppressive. A close kiln is used for this purpose in several places, and where, as at the Messrs. Christy's, this kiln is placed in an apartment quite distinct from the work-place, great relief is experienced. The men commonly work without coat or waistcoat, wearing a flannel Guernsey instead of a shirt. In some shops the thermometer stood at 90° with the windows open on one side of the room.

State of work-place.

76. "Planking" is usually carried on in a shed attached to the workman's dwelling; this commonly has large openings on three sides, with sliding shutters. I met with one case in which a mere cellar was being used, the floor of which was five or six feet below the footway, with only a door and one small window open. The place was full of steam from the "kettle."

Hours of work.

77. The hours of work are less than they were 15 years ago; but apprentices still often work from 7 or 8 a.m. till 9 and 10 p.m. in the busy season; this is said to last in London for five months at the beginning of the year. For particular branches of trade September and October are also busy months. At some places work goes on till 11 and 12 at night, but it is said that the men who work so late are in the habit of beginning late in the day. The steady ones work from 8 a.m. to 10 p.m. In some well-regulated factories it is rare for the work to be prolonged beyond 13 hours a day in their busy time. The Messrs. Hall, who have within the last year reduced their hours of work to that limit, find more work done between the hours of 7 a.m. and 8 p.m. than when, as was the case in the year before, they kept the "shops" open two hours later. (Nos. 50, 51, 60.)

78. The younger boys, who are hired by the men, are said not to stay so late as the rest. One of 13 told me that the longest he had worked was from 7 a.m. to 8.15 p.m.; but another at the same place, who was then 15, had worked last year from 7 a.m. to 10 p.m. often in September and October. He "used to get very tired," but "never did much after 8 p.m. except clean their boots." (Nos. 57, 59, 64.)

79. The younger boys at Messrs. Christy's do not even in busy times stay after 7 p.m. There, however, the practice of men hiring boys does not exist. "Altogether it was a bad system," says their manager in London, "and we swept away the whole batch of them." (No. 61.)

80. On Saturdays work ceases at 4 p.m., and in some cases at 1 or 2 p.m., but in the busy time it usually goes on till 5 or 6 p.m.

Meal-times.

81. Dinner is generally taken on the premises, and frequently cooked there. I have seen good sized joints roasting at the fire under the superintendence of one of the boys, the dinner for his five or six masters. Day workers usually have a full hour. The time the piece workers take about the meal is left entirely in their own hands; and the time the boy has depends too commonly on the caprice of some of them. At many places a bad custom prevails of constantly sending out for beer, and this is unfortunately encouraged by a system of trade rules inflicting for numerous social and other delinquencies fines which are levied in that form.

Effect of employment on physical condition.

82. Hatters run a continual risk of injury to health from carelessness in leaving the overheated rooms in which they work, without putting on sufficient extra clothing. The boys particularly suffer from this, and find that the constant running about from the hot room into the cold air gives them colds. (No. 59.) They seem, however, to be healthy as a class, and enjoy at least one advantage over tailors and bootmakers, that their occupation is the reverse of sedentary.

Education.

83. Some of the boys who are hired by the men know little more than their letters. One of 13 could not read the words "image" and "saint;" another could only spell out monosyllables letter by letter; a third, aged 10, working with his father near Stockport, could not read at all, and had never been to school. The manager of Messrs. Townsend's factory in that town states the education of the younger ones to be neglected. On the whole, however, I have found hatters' boys superior in this respect to those in many other trades.

84. There are no doubt difficulties, as the Messrs. Hall point out with regret, in the way of a London employer who is anxious to promote the education of the children employed on his premises. (No. 53.) Their existence makes it a legitimate subject of congratulation to the Messrs. Christy (to whose care in this respect at Stockport I have before referred), that their London manager thinks he "can safely "say that everyone of the boys there can read and write tolerably" (No. 61), and that my examination of several of them bears out his assertion.

85. "What we want now," says Mr. Woodrow, of Oldham, after remarking on the great social improvement in that town within the last 25 years, "is some force from without to prevent any from being "employed who can't read and write, at all events, under a certain age. It would be the wisest and "finest thing the legislature could do." (No. 294, p. 162, 2nd Report.)

GLOVERS.

Age.

86. I found one or two boys under 9 years of age employed in glove factories and warehouses at Yeovil, but few begin before 10 years old.

Number.

87. The number of boys in the trade is small, there being only 1,093 under 20, according to the Census of 1861. At some factories there are as many as 30 boys aged from 10 to 13; Messrs. Dent, in Worcester, have considerably more, but the usual number is from 4 to 12. Boys are not engaged in home work.

Hiring and wages.

88. Lads are apprenticed in the cutting shop, to the employer, at 14. They live at their own homes, and receive about 2*s.* a week for the first year, and rise 6*d.* a year, but are often put upon a modified form of journey work at about 18. The men who work in the paring shop hire their helpers, unless they happen to bring their own children.

Nature of occupation.

89. The younger ones are in most cases, however, employed in the warehouse or "counting room," in various light occupations, such as using a hand press to put studs in, or to punch pieces for the thumbs, or making up the material, which has been cut out, into packets which are taken home to be sewn by females, or putting the gloves in boxes after they have been finished. A hand press, like that used

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in printing, is worked, sometimes by lads of 16, for stamping out the palm, back, and fingers in one piece. (See 179 C, p. 89, 2nd Report.)

90. A sharp instrument, like a quoit with a bar across the centre for a handle, is used in paring the skins, which are stretched on stakes set upright in the floor. This is heavy work, much too heavy for the boys of 10 and 12 years old, whom I saw at the work. Most, however, are put to this at 15 or 16. Paring, staking, and other processes in preparing the skins previous to cutting are carried on in comparatively few glove factories, and form a part rather of the curriers' than the glovers' business. Some employers confine their business to "finishing" the gloves for others, who have not room or appliances for that purpose on their own premises. They also employ young boys in warehouse work, and in rubbing the gloves with French chalk. Other employers "finish" for themselves.

State of place of work.

91. The heat of the finishing rooms is at times very great. The open stove, still commonly used to heat the iron hands on which the glove is stretched, is said to have made even a good sized room, of its kind, "so hot as to be unbearable," (No. 393, p. 179, 2nd Report, and 173 c, p. 89, *id.*); and some such rooms are very small and close.

Hours of work.

92. The usual hours at Yeovil for the younger boys in the warehouse are from 8 a.m. to 8 p.m. in winter; the work is in summer commenced an hour earlier, and on Saturday night they are often an hour or more later. (No. 379, p. 176, 2nd Report.) At Messrs. Dent's, at Worcester, the younger boys never stay after 7 p.m.; they come at 8 a.m. in winter and at 7 a.m. in summer, having in the latter case three quarters of an hour for breakfast at 8.30, besides the usual dinner hour at 1 p.m. Lads in the cutting shop work sometimes from 6 a.m. to 9 p.m. on Thursday and Friday, but leave off at 1 p.m. on Saturday. The work-rooms are usually open at 6 a.m. in summer, and the men and older boys often stay till 10 p.m., but so far as I can learn it is not common for the same persons to work from 6 a.m. to 10 p.m. for several days together; work from 6 a.m. to 8 p.m. is frequent. The hours in the paring shops are 12 or 13 in the day: here work ceases at 4 p.m. on Saturday; but in many cases the men are allowed to please themselves, and consequently the lads with them work late at the end of the week to make up time lost at the beginning.

Effects of employment on physical condition.

93. I am not aware of any ill effect produced upon the health of the boys by the nature of their occupation. They all stand to their work. Such physical illness as exists among the men seems attributable chiefly to their own irregular habits, many having at the week's end long hours of work, and more particularly to hasty meals and to drink, and to unwholesome dwellings and places of work.*

Moral condition.

94. These border closely upon moral defects, "love of dress, drink, and late hours of work in the factory or at home, produce in the two sexes most lamentable results." (No. 387, p. 178, 2nd Report.)

Education.

95. In Worcester the state of education seems good. Messrs. Dent have a night-school of their own at which 70 or 80 attend. They also take no boys who have not been to school. (No. 393, p. 178, 2nd Report, and see No. 395.) Education is very much neglected at Yeovil. I have before remarked on the state of the girls; the boys seem but little better off. The highest class in the boys' national school contains 37, (the total number over 7 years old being 123),† and the average age of that class is 10 years, while at a neighbouring town, Sherburne, the average age of the first class is 13 years. The master of this school considers, and without doubt rightly, that the half-time system would be of great advantage to the place. (No. 386, p. 177, 2nd Report, and see Nos. 333, 385, *id.*) Here boys, anxious to learn, have to be admitted as young as 10 to a night-school held from 8 p.m. to 9.30 p.m., because they have no other opportunity, "and some great boys of 15 and 16 are unable to read." (No. 387, p. 177, 2nd Report.)

I have the honour, &c.,

H. W. Lord.

EVIDENCE.

Bootmakers.

Mr. H.W.Lord.

BOOTMAKERS. See also 2nd Report, App. pp. 164—175.)

London.

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Wholesale.

LONDON.

1. Messrs. Pocock, Brothers, Southwark Bridge Road.

The boot and shoe trade is still in an unsettled state; formerly one man used to last and sew and finish, now the work is distributed among three men, and each confines himself to his own branch; in some kinds of work riveting has wholly supplanted sewing, and will in its turn very probably be knocked out by the new American sewing machine. That seems to work very well; the agent of the patentee, Mr. Bates, has set one up on our premises.

The public will always prefer sewn work to rivet work, if they can get it at nearly the same price; for the latter is less elastic, and moreover the leather is found to wear away faster than the nails.

Although the substitution of such machine work for riveting would dispense with the employment of boys as nailers, boys would still be wanted to fasten the channel over the stitch; that process is the same as that which is adopted for the ordinary sewn boot, except that a solution of india-rubber is used instead of glue or paste. The boy would put the solution in the channel with a small brush, hammer it over, and then rub it down. There is also a very useful machine for cutting the channel, and another for cutting welts. We use steam power for the machine with which we stamp or cut out the soles.

We have very few workmen on our premises except those who cut the tops out; that is usually the case with wholesale houses like our own; the material is cut out on the premises, tied up in bundles enough for so many pair together, and given out to those who work at home; one workman takes the tops; when they are returned, they, with the soles, are given to another, who returns the boot again with the sole on, but in an unfinished state, and that is taken out again to be "finished." We had at one time nearly 100 girls on our premises working with sewing machines at the uppers, but they are all now working at their own homes with the machines, for which they pay us a

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* See Dr. Greenhow's Report, 3rd Report of Medical Officer of Privy Council, p. 189.

† According to the Census for 1861 the population of Yeovil is 14,925, of whom 6,584 are males.

small sum, 2*s.* 6*d.* a week or so. Similarly we had about 60 riveters at our old premises, but now they all work at home; one great reason for having them work off the premises is that the noise they make is so immense, even our customers objected to it.

The men who work at home have apprentices; some, who have what is called a good seat of work, may have two at a time; but few have more than one.

The hours of work with us are from 8 a.m. to 7 p.m. with an hour for dinner; on Saturday they leave at 5 p.m. From November to March is a flat time in the trade, but for six months or so in the summer they begin work at 6 a.m., they do not then work any later. The younger boys do not work that overtime.

Finishing is heavy work; it would be much less so if they would use the upright movable last we have here, and stand up to the table, but the men who work at home do not care to change.

We have a few boys here of about 14 years old who clean boots, punch the holes, and put the eyelets in; there is one of about the same age who is learning to cut out; he was employed here as the others first of all; he is not apprenticed; we do not apprentice any; he has been at the "board" about three months.

[2. The boy referred to told me he would be 15 next month, and had begun his work here at 12, up to which age he had been to school. The youngest of the other boys was between 13 and 14.

An intelligent workman, who explained to me the principle of the new machine and showed it in work, informed me that, if worked by the treddle, it would turn out (*i.e.*, sew the uppers on to the soles) 200 pair in a day of 10 hours; and 300, if worked by steam.

The foreman of the department where the material was given out to the riveters stated to me that a man working by himself would last up and rivet a dozen pairs in a day of 10 hours, and a dozen and a half if he had a boy to nail for him.—H. W. L.]

3. *The lad "finishing" at the sewing machine.*—I am 15; I began to work at 8 years old, helping my father at home, just waxing the thread and so on, that was easy work and easy hours; at 12 I went to work for another man who takes out work from here; I was the only one there; my usual hours were from 7 a.m. to 8 p.m., an hour for dinner and half-an-hour for tea, but I have worked with him when we were busy once or twice a week from 6 a.m. to 10 p.m. This standing to finish is very much better than sitting; I have only been here a few weeks; before that I used always to have to sit; you sit on a low stool, and either have the boot fastened on your knee by a strap passing under your foot or stick the boot up with one end on your thigh and the other against your chest; that hurts your chest very much.

I hadn't much time for schooling; boys that work in that way very seldom do get much; why I can't even read or write! I only know my letters; that is often so among shoemakers' boys, who begin to work at home young, and go out soon to work for another man alone as I did.

Messrs. Homan, Wormwood Street.

Part of the subjoined information was given me by Mr. Homan; but as the following witness, at his request, confirmed his statement, and in conducting me over the premises, gave me much additional evidence, I have retained the whole under one name.

4. *Mr. Walter* (foreman.)—About 200 men and boys are employed altogether on these premises, including the warehouse; some are "clickers" and "trenchers," others are "riveters." Our great factory is at Northampton, where, when it is finished, we shall employ 400 or 500. The tendency certainly is to collect men into shops for riveting, and pegging, which is the same sort of thing; there is, however, still a good bit of work done by riveters at home. There is no question that those who work in large shops are far better off; in the first place, the home-work is often done in miserable hovels; in the next place, men who work in large shops must be regular. The men are anxious in many cases to come out to work, because, as they say themselves, they are then obliged to be steady and regular; the fact is, they have not moral confidence in themselves. I consider the factory system a thousand to one preferable to the home system.

In some cases men with a little capital and a small workroom let riveters who take work out come to their workroom to do it; they let out a bench to each man. A bench consists of two lasts set up in a table side by side, one for the man and the other for his boy who nails for him. The finishing is all done at home.

Our usual hours are from 8 a.m. to 7 p.m., with an hour for dinner from 1 to 2. I think those hours are usual in the trade, but whether the small men are so regular will depend entirely on their habits; those that work at home are no doubt very irregular. We are liable to pressure now and then; for the last fortnight we have been working four hours overtime; but the men get fagged with it, and have asked for the future to knock off the two hours extra in the morning, and say they can get through nearly as much with two hours overtime as with four; so we shall try them. Our overtime amounts to about three months in the year, but not for more than a week or two continuously.

The nailers who work on our premises are hired by the riveters, who pay them from 5*s.* to 9*s.* a week; riveters themselves earn twice as much as they could as seats-men, 45*s.* and 50*s.* a week and more; none of these riveters' boys are under 14, I believe.

[The youngest I could find was 13.—H. W. L.]

Most of them are sons of shoemakers or riveters, but they are not working here with their fathers. A riveter must have a boy who can nail as fast as he can "last up;" neither must get a-head of the other.

There are boys of 15 and 16 years old among the clickers; they are not exactly apprentices, but are articled at about 16, and learn to cut out; they begin from 10*s.* a week or so, and rise up to 20*s.*

There are not more than 20 boys under 18 employed here in manufacturing, and none under 13; there is very little schooling in the trade, at all events among riveters and that class; but I think they have improved in appearance and manners since they came to work regularly on the premises.

Boys go to finishing at about the same age as they do to riveting, 14 or so.

[The general manager informed me that he found it difficult to find boys, even for the warehouse department, who could do more than read badly.—H. W. L.]

Messrs. Hickson & Sons, Smithfield.

5. *Mr. Thomas Hickson*, who conducted me over the part of their premises where some "riveting" and "finishing" were being done, stated, that although they were slack at the present time (November), they had had as many as 90 men and boys employed there in the year, and would probably have as many when trade revived. He considered that few boys would be employed by riveters under 12

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years old, for the reason that younger boys would be likely to spoil the work, and thereby soon cost the men much more than the difference in the week's wage. None of those employed at the time of my visit appeared to be under 12. Most of the finishing in London is home-work, and, in Mr. Hickson's opinion, the tendency is for the riveting work also to be given out.

He informed me that nearly three-fourths of the riveting and finishing work in the trade was done in Leicester, from which town many of the riveters, and especially the finishers now working in London, had originally come. He thought it not impossible that the sewing machine would be substituted for riveting, as a patent was already in existence, and being tested for that purpose. In that event boys would not be needed as now to drive the nails; they might, however, be still employed to build the heels, and otherwise to assist the men in lasting up, but there would not be so many of them.

He had no doubt that riveting was a far more healthy employment than sewing, at which a man for the first few years seemed to become almost paralyzed. He considered also that "finishing" was very heavy work, especially the "staking" (in which a man takes the boot in his lap, and presses it against his chest while he uses the iron with both hands).

The usual hours of work are from 8 a.m. to 7 p.m.; the overtime is optional, the doors being open at 7 a.m. and closed at 9 p.m.; such overtime lasts for three months in the summer, but the men cannot stand more than four or five such days in the week, though they prefer working hard for those days, and having one or two easy days in the week; they adopt, in fact, the principle of journeymen working as they do in their own homes.

6. *Phillips*, foreman of riveters, stated that the riveters' boys were as hardy and healthy a lot as any in any trade; several had begun to work there at 9 or 10 years old.

7. *One of the riveters* also told me that boys began at 9 or 10 to nail, and said that his own had done so.

8. *Sullivan*, a finisher, confirmed Mr. Hickson's statement as to the labour of "staking," and said that boys often had to do it as well as men, and worked as long. He had himself, some months ago, worked from 7 a.m., and sometimes 6 a.m. till 9 p.m. for five days in the week. The boy who was assisting him was 14 years old; he had begun the work at 12.

Messrs. E. & A. Lion, Smithfield.

9. *The foreman* here informed me that about 16 boys were employed in riveting, &c., on the premises, but none of them were under 12 years old; they often began work at that age. He considered that they would not be put to it much younger anywhere, not even at home, as some strength was needed.

Finishing was all done at home. That required an older and stronger lad. He stated, also that the majority of riveters' boys could not even read, and were picked up out of the streets or anywhere.

10. *The Messrs. Lion* informed me that they dislike any overtime. The hours of work on their premises are from 8 a.m. to 7 p.m., and they have rarely had more than half an hour overtime on any night in the last seven years.

11. Mr. S. Simon, Tuillerie Street, Hackney Road.

I manufacture for the wholesale and the ready-made trade. At one time I employed a large number of persons on my own premises, but now I give most of my work out, and have here only the clickers, (who cut out for the uppers), and a few girls who work sewing machines. I had nearly 100 girls employed here, but the greater part of them prefer to work at home, for there is a sewing machine in many families now.

There are some few boys, apprentices, who work with the clickers. Their hours are from 8 a.m. to 7 p.m. with us, and that is long enough. In my opinion overtime is unprofitable, as well as injurious to health.

Where boys are chiefly employed in the boot and shoe trade is among the riveters. A riveter has two boys of 12 or 14, who drive the nails in the holes which he makes; they also file the heads down. He pays them from 2*s.* 6*d.* to 5*s.* a week. It is among them that the habit of late hours of work prevails; it is nearly all home work. I tried having them here, but found that their habits were too strong for me. The men would not come in to work till 11 or 12 in the morning, and would not leave till 11 or 12 at night; so I gave that up.

But those are their habits at home, and frequently there is nothing done on the Monday and Tuesday, and consequently they work very hard at the end of the week, the boys working the same hours that the men do, for they must go on together. It is wholly unnecessary. If they choose to work regularly from 8 a.m. to 7 p.m., for example, every day in the week, they could get though as much and probably much more, and with less effort. As it is, many don't come here to take their work out till midday nearly, and others not till 7 or 8 in the evening.

One marked effect of this substitution of riveting for sewing is the diminution in the number of boys who are put to learn sewing in the trade. The boy's work in riveting is less laborious and more quickly learnt, and they are better paid, at first at all events, than they were at sewing, so that parents prefer to put them to that at once. In four or five years time there will be a great want of competent hands for sewing.

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12. *Mr. Newsom*, Thorold Square, Bethnal Green Road.—I take out work for Mr. Simon; I chiefly make ladies' in-door boots; they are scarcely ever riveted but are sewn. It is in riveting and finishing that most boys are employed: a boy will go to rivet at about 11 years old; his work is to drive the brass brads into holes round the soles; the holes have been made before by a pricking machine; the boot is put for riveting on to an iron last; the boy's work is indeed more like carpentering than boot-making, for the work is given out from the warehouse ready cut and they have only to hammer the brads in. A riveter must have one boy to help him, most have two boys. Boys are not put to finishing till about 15 years old; they then use the glazing iron, for riveted soles are mostly blackened and burnished. Finishers are a separate class from riveters.

I believe the usual hours for boys are from 7 a.m. to 8 p.m. with two hours for meals; that is so with me. I have sometimes had a boy to teach sewing, but have never kept one at work after 10 p.m. and not often so late: in sewing, the man has to fit the

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stuff for the boy to sew, and therefore often works later at night than the boy in preparing work for him to do the next morning. But riveters have not that to do;* so that when the man works late the boy does also, and that is the case often enough, especially where the first day or two of the week is wasted. I have often heard boys at the warehouse, who have come on Friday afternoon for grindery, say that they were going to work all night.

Where the work is done on the master's premises the usual hours are from 8 a.m. to 8 p.m. with an hour and a half for meals, and till 4 p.m. on Saturday; that was so where I worked, and is so in several places that I know of; but they are pushed from time to time and have to work longer. I know of one wholesale house at the present moment where all hands have been working more than a week past from 6 a.m. to 9 p.m.

Journeymen who take work out cannot always avoid working late; they often have to wait a long time before their work is given them; at one place I often waited more than two hours in the morning before I got the work, so that the boy is idle all that time and has to work late to make up for it: some boys are paid by the day and some by the piece, but it is the same in either case; if paid by the day the man must keep them to get the value of what he pays them in the day's work: if they are paid by the piece, they will work any hours, and will not stay where they are not kept going.

Some journeymen take boys to learn for two or three years, but that is at sewing, not riveting; I do not think they work very long hours, not longer than from 7 a.m. to 8 p.m. as a rule, but that of course depends upon the habits of the man, and all are liable to work late on a push to oblige the employer who gives them work out; such things are unavoidable.

13. Mr. T. H. Hooker, Bethnal Green Road.

Boys are employed by riveters as "nailers;" the men prepare the work for them, that is, fit it on the last; we have no boys here for that purpose, because our men do their own nailing. Most riveting is still done in shops though a great deal is done at home. The "sewn work" is much more injurious to health than riveting; most who have been brought up to that suffer from disease of the chest or heart; for the work is sedentary, and they have to bend very much over it, and in parts of it they press the heel of the last right into the pit of the stomach: some of the rooms where that work is done are dreadful places, underground kitchens, and so on. They are put to sewing at home as young as 8 or 9 years old; boys do not nail much before 12.

For almost all common work riveting has taken the place of sewing; the kind of work called "sew round," light French bottoms and the like, is nearly the only kind of common work that is not riveted.

The hours are much longer among sewers than among riveters; there is a great deal of work on Sunday; they prefer to have their Monday to themselves. You shall inquire of those whom I employ as to the hours of work.

There is very little education throughout this district; quite one-half of the boys who offer themselves to me as errand boys can neither read nor write; they are 13 or 14 years old. It is a constant complaint in the schools here that the children never stop long enough for the teaching to be of any use to them.

[Mr. Hooker conducted me over his premises and afterwards took me to the houses of several men who worked for him at their own houses; by this means I obtained the evidence of the three following witnesses. —H.W.L.]

14. — *Presser* (riveter). — Some short time ago I worked at a place, where the riveters had boys to nail for them, each had one; some were as young as 9 or 10, and very little; they had to stand on a high block in order to be able to reach the last. The hours were from 8 a.m. to 7 p.m. with an hour and half for meals. The boys' work is not continuous, for they play about, while the men are fitting for them.

As to home work there is no knowing how long they work: in the low common kind of work—among the German slipper makers, for instance,—there is no end to the work, and no beginning either; just as much on Sunday as on any other day; they often go on till 11 p.m.; sometimes they don't get home from the shop till dinner-time, and so don't begin to work till late, but the boys will be there in the morning.

I began at stitch work at 12 years old, and worked all hours, from 6 a.m. to 10 p.m. constantly; I was not with my father, but with a journeyman who had no one else. Afterwards I was at a Polish Jew's; I was 17 then, he had three men besides his own family. I wouldn't work on Sunday, but often began at 12 on Sunday night. The boys who work at small places like that or at home are from 10 to 16 years old. There is no regular agreement; they are generally paid by the week, when I was with my first master I had 7*s.* a week: no more however long I worked.

I have been at riveting for two years and a half; my health has been much better ever since; stitch work is very unhealthy. I am nearly 27 years old. So far as I know boys are employed as young and work as long now in the stitch work as I used to.

I have two brothers one 10 and the other 12 years old; neither of them can read: they work at a type foundry, often from 7 a.m. to 9 p.m.

15. *Boy at Clark's.*—I am 16; can't read; began work at 12 years old; was at school only for six months before that; have never been since; used to work then from 7 a.m. to 10 and 11 p.m. very often; that was stitch-work, they work just as long at it now, and so they do some of them at riveting. All sewn work is held across the knee by the stirrup. I lost my eye by trying to loosen the nail in the centre of a boot. My hand sprung up with the awl in it, and struck me in the eye.

[16. This boy's master told me that he had had several boys with him from time to time, and that none of them could read.—W. H. L.]

17. — *Butcher.*—Boys begin to stitch at home at 8 and 9 years old; they work any hours at that. They begin "finishing" at about 12 years old. First, they file, then ink and glaze. They earn about 3*s.* 2*d.* a week to begin with, and 8*s.* or 9*s.* at 14 or 15; but age has not much to do with it, for they get paid according to what they are worth, and a boy of 9 or 10, if he is quick and strong enough, will often earn more than one of 14.

18. Mr. F. D. Wrangham, Shoe Mercer, &c., London Wall.

I have inquired of four or five of my customers in the neighbourhood of the City Road and Whitechapel. Some of them employ as many as 40 men in riveting or finishing, all working at home, and many with a boy to help. They all tell me that the men whom they have asked assure them that they very rarely work longer than from 8 a.m. to 8 p.m. I have heard of only one exception, that is the case of a middleman, who has several men to do their work in his shop. These men and boys frequently work till 10 p.m., and in fact as long as they like. There are not many such middlemen.

* This is inaccurate; the "fitting" of a riveter is, however, less carefully done; and the witness a superior workman of the "sewn" work, would not admit that to be properly called "fitting."—H.W.L.

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I think that in the great bulk of the trade the usual hours are from 8 a.m. to 8 p.m., and are seldom exceeded, at this time of year at all events (November). So far as the sewn work is concerned, I think the whole trade would bear me out in saying that a man who works at home brings more work in in winter than in summer. They prefer the warmth of their own rooms then to the corners of the streets; and, being at home, may as well work as not.

Retail.

19. *Mr. C. Parohl*, Malden Road, Haverstock Hill.—I have one apprentice. He has been a few months with me. I think a boy of 14 or 15 too young to sit at work all day; 12 hours a day would be too much, unless the work were varied. Such a boy ought to have more exercise. I send mine out on errands, and he also fetches water and things to assist about the house. At present his work is sewing uppers. He uses the clamps to hold them, and need not stoop to them; you must stoop in making the bottoms. There are many closers who can't make bottoms; in England that is generally so. I intend to teach this boy all the branches of the trade.

The hours of work are shorter in winter than in summer; we do not begin before 9 a.m.; we cannot use the wax for our thread until it gets warm. In the summer we begin at 7 or 6 a.m. sometimes. He always leaves off work at about 8 p.m., and then usually has supper, and goes to bed; but on Saturday night we have to keep the shop open late, and he has to help watch the goods there. We are often open till 11 p.m. then. I often am at work earlier and later than he is, if I have anything particular to do; but a boy of his age would not be able to help much in sewn work.

This rivet work is ruining the boys in the trade; for all they learn is driving the nails, and filing the roughness off. Finishing is bad work for health. My wife's nephew, and his wife, are in that. They often work from 4 a.m. till 11 p.m., and only earn about 23*s.* a week. It is all done at home. They sit close over the fire where the iron is warmed; and hurt their chests by pressing the heel of the boot against it in burnishing and filing. He wants to have a boy to help him, but I would not advise any to take up that work. It is a common practice for finishers to work all Sunday, and they are in the habit of drinking a great deal of beer to keep their spirits up; for the sitting all day in one close room is very depressing.

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20. *Mr. Kislingbury*, Victoria Terrace, St. John's Wood.—I have two apprentices, but there are not so many taken as there used to be. You might go to a dozen shops like mine and not find one. Where they are taken they are bound at 14 for seven years, and live on the premises. There are never more than two or three at a time. They come chiefly from the parish schools or the workhouse; but most journeymen bootmakers have been taught by their fathers.

The ordinary hours for apprentices are from 6 a.m. to 8 p.m. in summer, and from 8 a.m. to 9 p.m. in winter, or thereabout.

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21. *J. S.* (a tradesman in the London N.W. district.)—A bootmaker who lives next door to me has two or three apprentice boys. The way they are treated is shameful, for they work constantly from 6 or 7 a.m. till 9 and 10 p.m., and later. I have often seen them working till past midnight on Saturday. I can see them from the back of my house, for they work in a room that is built out into the garden. They scarcely ever get out of the house for any play or exercise. The youngest don't seem older than 12 or 13, but they may be small for their age; they certainly are not 18.

CAMBRIDGE.

Cambridge.

22. *Mr. Banham*, Junior, Green Street.—"Making," that is, putting the soles on, is much heavier work than closing. I was for two years learning the former, and, though I am tolerably strong, I could scarcely manage "making" the heavy boots, for there is much more labour required for thick walking boots than for dress boots for example; one of our men who makes dress boots, says, it is impossible for him to stand making heavy walking boots. Bristles are used with the thread as in closing, but the thread used in "making" is twenty times the thickness of the other.

We have lately found it difficult to get sufficient closers in proportion to the makers we employ, we have therefore had to press those of the latter whom we had. All the work is taken home. They do not work several together, but each man is either alone, or has a lad to help him; if the latter, he is called "double-handed." A closer will get through a pair a day by himself, and will earn from 25*s.* to 30*s.* a week; if he is "double-handed," he may earn from 35*s.* to 45*s.* a week, but that will be only in term time. In the four months of vacation he will not earn more than from 20 to 25*s.* a week.

I will take you to one of our closers who may be able to give you further information.

23. *Mr. Broom.*—I "close" for Mr. Banham. Boys come to work at about 13 or 14 years old; but there are very few now; not more than half a dozen boys closing in all the town. Parents won't put them to it now for fear of the sewing machines. Makers have more boys, but there not 50 lads altogether being brought up to the trade in Cambridge.

The usual way is for a man to work at home with one apprentice. They are bound for five or six years, and some live with their master and some at their own home. They are all, I think, fairly educated.

There is very little of long work, even in term time. I think 13 hours of work is a fair average; that does include meal times. About an hour is taken for them. Since the work is done at home, there is no time lost in going to and fro for meals, but when they are ready you can just come down and take them, and go back to your work at once.

I don't think 13 hours a day can be considered too much for a boy of 14. I used at that age to work from 6 a.m. to 9 p.m. I had an hour for dinner, but took my breakfast and tea at the seat. I was never better in health in all my life than then. I lived a mile from where I worked, and so had four miles walk in the day. Perhaps it was that that kept me well.

BRIGHTON.

Brighton.

24. *Mr. Tribe*, Over Street (journeyman with small shop).—I like regular hours myself, and think 12 hours a day quite long enough for any one to work, allowing an hour for dinner out of that. But there are plenty of boys working for journeymen in the boot trade who have to go on 16 hours a day. It is all bad management. Some of the fault is with the masters, who don't give out the work so soon as they might; but it is most the habits of the men, who choose to be idle for the first day or two in the week, and work on till 2 or 3 a.m. in the latter part. This is not peculiar to Brighton or to any other place, it is the same all over the country.

Boys are not usually apprenticed till 13 or 14, but many go much younger than that under a sort of agreement at about 10. This boy here is 12. He

has been a year with me, but they begin younger than that. I began myself at 9. I did'nt work so very long at first for I was with a relation, but at 11 I used to work 14 hours a day for 5*s.* a week. Those are, in fact, the regular trade hours, 14 hours, with two hours out for meals. It is certainly too long for growing boys, particularly as they have to sit and stoop. Want of air and exercise is the bad thing. I have myself often laid on my back after leaving the "seat," quite unable to move. I learned to do this (showing a snuff-box), at 14 years old to keep myself awake at work.

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[Besides the boy above mentioned there was a man and three lads, aged from about 17 to 21, working here. The latter confirmed Mr. Tribe's account from time to time as he was giving it me.—H.W.L.]

LEICESTER.

Leicester.

R. Martin, Esq., of Anstey, near Leicester, has furnished me with the two following statements taken by him for me relating to children's work in outlying village districts.

25. *George Wolf*, of Anstey.—I put my son to the shoe trade at about 9 years old, but many children go younger than this. The youngest I have known is 8 years old.

He went to learn the sewing branch; that is the sewing by hand of the tops to the soles in the small light shoes; they are sewed on the wrong side, and turned.

He began by being paid 3*s.* a week, and was gradually raised. He afterwards went to the nailing branch, and at about 15, when out of his time, got 17*s.* a week.

Quite small children begin frequently by nailing; in this case the man, under whom they work, fixes the pieces, and they simply drive the nails.

They seem to suffer no harm in health, as they get a run at their meal times, (half an hour, an hour, and half an hour), but all nailers are subject to hurt from the brass sprigs which are almost always carried in the mouth; they generally take medicine for this about every other day. Some have tried to pick them up from the table instead, but they cannot work against the others, as they continue to turn them in the mouth, so that they all come out one way.

Children (boys), can also begin by boring the holes for the sprigs with a foot-stamping machine. Girls begin generally by pasting together the inside and top leathers temporarily ready for the sewing machines. They afterwards go on the sewing.

Wholesale.

26. *Mr. William Moore*, shoemaker at Anstey, employing 200 hands.—I employ directly no boys under 12 or 14, or girls under 14 or 15, for they are too careless and idle generally when younger, but there are numbers of both sexes, who work under my hands at much younger ages. The boys begin about 6 or 7, and the girls about 5 or 6. The boys by working under a finisher generally (sand-papering or paring), and after that by going to the nailing while the soles are fixed and started by men. The girls begin by sewing the welting by hand, or by pasting the uppers ready for the sewing machine.

These go to the machine at about 15 or 16.

The people in my own factory work 10½ hours in a day; 6 to 6 in summer, half-past 8 to half past 8 in winter; with half an hour for breakfast, and an hour for dinner. They give up work always at 1 o'clock on Saturday, and often before. Those who work at their own houses of course work their own hours; they often work a whole night before the "feast" or Christmas.

I, who have done every branch of the work myself, consider it to be generally healthy, much more so than stocking making; for nearly all the branches stand up to work, and do not sit in a cramped position; except however the finishing, which is not very healthy; indeed, I found it affect my digestion when I worked at it.

The nailers do not carry brass sprigs in their mouths generally, for they are unhealthy, and also hurt the tongue from the roughness. They are paid rather higher for them in consequence.

LETTERS FROM EMPLOYERS.

27. Letter from Mr. Charlesworth.

Stamford Street, Belvoir Street, Leicester,
Sir, December 13, 1864.

Replying to yours of December 3rd, your London information is a type of the system here adopted. In the nailing department, it is not the general practice here to have one boy to one man, but it would take two or three boys to nail all one man could last. I may inform you that the riveting is now being given out to be done at their own homes, as the finishing is. It is daily becoming more the practice to give out, and not have them done on the manufacturing premises; in short I may tell you that it is my opinion the nailing will ultimately be done, as the finishing is, at the workmen's homes, or small shops of their own, as at Northampton, and county of Northampton.* If this becomes the rule, it would be a difficult task to give you any reliable data as to the ages of children when put to the shoe trade, or as to the hours they would work per day; perhaps, your experience will have taught you that when hands get from under factory management, and their time is their own, they, as a rule, are very irregular as to working hours. I am afraid the fact, as I have related to you, of their having the work at home, will render your task much more difficult. I wish some method could be brought about which would reach the case, but I fear nothing but a comprehensive sound and universal system of National Education will approach the evil. If, Sir, I can from time to time be of any service to you, do not be afraid to ask me for any information you may think I can furnish; for no man would more like to see the general improvement of the working classes than

Your humble servant,
Wm. Charlesworth.

28. Letter from Mr. J. B. Simon (of Messrs. Turner, Brothers, Hyde, and Co.)

Hardingstone, Northampton,
Dear Sir, December 8, 1864.

Your letter of the 6th instant reached me in due course. I have now much pleasure in answering the questions put therein.

Throughout the shoe trade boys work for riveters finishers, makers (by the latter I mean the men that sew the soles to the uppers of boots), and equally with females, for closers, that is hand, not machine closers.

The age at which they are first put to the work at the above-named occupations depends very much upon the size they are, but in 19 cases out of 20 it is from 11 to 13 years.

Riveting is chiefly carried on in the factories, but finishing and closing almost entirely at their own homes.

In the factories the average day is 12 hours, that is from 8 a.m. to 8 p.m., or in the summer from 6 a.m. to 6 p.m.

In their homes there is no stated time, generally the early part of the week is wasted, and towards the

* *i.e.* As the closing, making, and finishing are done at Northampton; if it referred to riveting, this statement would be incorrect. See the two following letters.—H. W. L.

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close they are then obliged to work all manner of hours. It is not often the case in Northampton that overtime is made in the factories; but even when it is, it seldom exceeds two hours per day, and that for a period extending over the whole year of not more than a month in total duration.

Should you require any further information and details, it will always afford me the greatest pleasure to give or procure them for you, and I trust you will not permit any scruples to prevent you applying to me.

I am,
Yours faithfully,
J. Bruckshaw Simon.

29. Letter from Mr. Ager (Messrs. Ager and Milne).

Wholesale and Export Boot and Shoe Manufactory,
Castle Street, Northampton,
December 31, 1864.

Sir,

Your letter of the 6th instant came while I was in Scotland, or would have been replied to earlier. In reference to your queries, closers employed in factories, whether large or small, work regular hours. A many of those who have work at their homes are not so regular; doing little at the beginning of the week, and keeping very close at the end. Riveting here is all done in large factories; 10 working hours is the rule in all of them; these are also the hours for closers in factories. Boys are employed mostly above 10 years old. Some of the makers, who work at home, are still very irregular. Drink is their besettment; such are often at the public house the whole week. I would say, though, the large majority of shoemakers are industrious and orderly.

I shall be very pleased to give you any other information you may require.

I am,
Your most obedient servant,
Thos. Ager.

30. Letter from Mr. Gibson (Messrs. Gibson and Woolley).

Stafford, December 7, 1864.

Sir,

Your letter of the 6th instant is to hand, and my reply is that it is usual for shoemakers to have lads who do the sewing part, or what they call "putting the stitches in." These lads are generally apprenticed, and their hours of labour are usually very long, say, from 12 to 15 hours per day, they begin the trade from the ages of 10 to 12 years. Their labour is altogether heavier than that of boys employed on the premises.

I remain,
Yours truly,
H. W. Lord, Esq. H. W. Gibson.

TAILORS. (See also 2nd Report, App. pp. 145—150.)

Tailors.
London.

LONDON.

Messrs. H. J. & D. Nicholl, Regent Street.

31. *Mr. Trelawney* (No. 221, p. 148, 2nd Report).—Very few lads under 18 are employed by tailors in any part of London, even in the suburbs; most of those under that age, who are in the trade there, are working for their fathers at home. Tailors' sons, however, are set to work very young, often at 10 years old; this is the case throughout the country, but especially in Ireland. The consequence is that at 15 they are put to man's work, though they are without strength for it; that is to say they become proficient at sewing, but have not the manual strength requisite for pressing and for working on heavy garments. Two young men here, who are 19 and 20 years old, began to work at home for their fathers at 9 or 10,* and were independent of him at 15.

Tailors are getting scarcer; the facilities of railroad and steam-boat travelling have encouraged emigration, particularly from Ireland, which used to supply the greater number. The system of apprenticing is wholly disappearing; and comparatively few are coming up to the trade. No lads but tailors' sons have for a long time applied to me to be taken on. The trouble of apprentices is disliked. My errand boy here, who is about 13, wants me to apprentice him; he can sew fairly already, but I shall not take him. It is in country-places for the most that any are now apprenticed to learn the business.

I know of the way in which work is done in the Whitechapel district, from conversation with men who have worked there rather than from my own experience; the system there is to have a few men to press, and any amount of women to work sewing machines. (See No. 43.) Machinery is changing the whole trade.

The work at home is very irregular and the workplaces very unwholesome; the majority eat and sleep and cook and work in one room. The sons have to work as hard as their fathers, while the work lasts; but there is plenty of slack time; there is no pressure with tailors to compare to that of dress-makers in the London season; it lasts at the most for eight weeks in the summer.† What hard work there is at home arises in this way; a man works for one or perhaps two shops; a coat is often sent in to him in the evening, and wanted the next day, perhaps at 4 p.m., so he and his son, if he has one to help him, may work half the night. From a sanitary point of view it is certainly far better to work in shops than at home; I believe it also to be to the interest of a master tailor. My system, that of having a number to work in one building, will be general in the trade in 20 years' time.

The best way for you to obtain further information will be to go into any respectable small shops in three or four districts away from the centre of London. Most of the proprietors of such shops are intelligent men; you will find that they will corroborate all I have told you.

Messrs. Grosjean and Petherick, Regent Street.

32. *Mr. Petherick.*—Very few lads under 18 are employed in our business any where in London, even including those who help their fathers at home; not one of the men who work for us have any. The parents here prefer them to be doing something at which they can earn money almost from the first, instead of having to support them wholly for a long time, or else to pay a premium with them; and in London there is plenty of other employment for them. I learnt in the country; the hours for apprentices there were from 6 a.m. to 8 p.m. An apprentice is put to sewing and basting for the first two years, and then learns to press and cut out.

Messrs. Mathison and Co., Conduit Street.

33. *Mr. Mathison.*—In first-class west end businesses no apprentices are taken except sons of master tailors, nor are there any employed under 18, unless as a rare favour a man is allowed to bring his son to work with

* I learnt by inquiry of one of them that this was the case.—H. W. L.

† This witness had previously (2nd Report, p. 148, No. 221,) said that the longest hours in his room were from 8 a.m. to 11 p.m. in May and June, but that did not occur so often as three times a week.

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him; possibly a journeyman who takes work out from such places has one apprentice now and then; and small masters in the suburbs do so also; but the men who work in our shop and at houses like ours have for the most part learned their business in the country.

The hours in large shops are usually from 8 a.m. to 8 p.m.; in the season they work till 10 p.m. when there is any need, but very rarely later; those who work in the shop never take work home.

Some of my work is done out. A man working at home must often work from 6 a.m. to 9 p.m. and later too, and in wretched places; one who works for me has a wife and seven children, one of whom he is bringing up to the trade; they, I know, have but one room to work and eat and sleep in; that is no uncommon thing.

[Mr. Salaman of Charing Cross, Messrs. Scantlebury and Sharp of Regent Street, and Mr. A. W. Miles of Brook Street, Hanover Square, gave me similar information as to the practice of the trade in London and the small number of lads employed there.]

At Mr. Crookes', 56, St. James Street.

34. *Mr. Crookes, jun.*—We never take apprentices, but I have often heard our journeymen say that they worked twice as hard and earned twice as much when they were on half-earnings as apprentices as they do often now. If there are apprentices taken in London it will be by men whom we employ out of doors. Tailors are certainly not healthy men; they suffer from bad air, if they work in the small rooms of the journeymen, and perhaps as much from bad habits, if they go to the master's shop.

Since your last visit I have made inquiries of several of our best journeymen; they all confirm the information I gave you before, and say that they would not on any consideration apprentice their own sons to the trade in London; as they think that the places where they would have to work are very bad for the health.

The general custom is for all the men who work in the same premises to be drawn from one house of call; this gives great power to the men, who can always act in concert: many of the best men will not belong to a house of call, and so are driven to work at home. It often happens too, that a journeyman who works in a shop wishes to make use of his children, who are growing up at home; he therefore prefers to take work home, if his employer will give it him. I think the children rarely begin to help till 13 or 14 years old; they would begin by sewing sleeve linings, and next fell the bottoms of trowsers, and then perhaps sew the padding of collars. Most of their children go to school, till they are about 12 years old, I think; they constantly bring their fathers' work in just at our foreman's dinner-time and say they have been to school in the morning, as a reason for not coming earlier.

One great reason for the fathers preferring to apprentice their sons in the country is that in London now a man makes only one garment, and knows nothing of any thing else: a short time ago, for example, when we were not very busy, one of our best coat hands who earns 6*s.* or 7*s.* a-day, thought he would like to try his hand at a pair of trowsers; it took him two days, and he made 5*s.* In the country, however, only a few would be employed at one place; the master sits on the board with the rest, and an apprentice learns the whole of his business.

35. — *Garford.*—West-end journeymen are made in the country; they come up to London at 19 or 20, and are taken as improvers for two years, receiving 5*s.* or 6*s.* a week and their board; even when boys are apprenticed in London they are seldom formally bound. Most of those who take out work from Mr. Crookes' employ only journeymen. One has a son 15 years old learning the business, he employs seven or eight men. One other, I believe, has an apprentice.

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36. *Mr. Anderson,* Mill Street.—I take out work from Mr. Crookes, of St. James's Street, and employ eight or nine journeymen on my own premises; I do not take apprentices; my own boy, who is 15 years old, works for me; he always leaves off at 8 p.m.; 10 or 11 hours a day is quite enough for a growing boy. It is very rare for any tailors in London to have apprentices; you never find them in the large shops of master tailors, but occasionally a man is allowed to take his son there. I have a large acquaintance among men in my own position in this district, and do not know of one who has an apprentice. I once had two, whom I took out of charity to their mother, a widow. I had no indenture with them, and as soon as they were getting useful to me, they left to work for wages elsewhere. I should like to take an apprentice now, if I could meet with an honest respectable one; he would work the hours that my own son does; he would sleep in the work-room. No doubt the business is learned by journeymen tailors in the country; they come up to London before their time is out, expecting to earn 35*s.* to 40*s.* a week, and then find that they don't know their business. No doubt where journeymen, who work for master tailors, do take apprentices, the lads work the same hours as their masters, if they are unconscientious men. I knew a man who until lately had an apprentice; he was not at all a fit person for a boy to be with. I had rather not mention his name.

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37. *Mr. Burden,* King Street.—I work for myself, and have never had an apprentice; I was apprenticed in London, and worked hard; by hard, I mean 18 hours a day; I often did so, for I knew what I should get if I didn't—a good hiding. It is only for a part of the year that west-end tailors are very busy; that is, from the end of April to the middle of July, and from the beginning of November to Christmas; it is all a drive then; and they are slack enough for the other six months of the year. Where apprentices are still taken, they work as long as I used to, but there are much fewer, I am sure, than there used to be. The workhouses and reformatories may still apprentice boys to the trade, but I think that few parents care to do it. I have two boys, but I would sooner see them selling food on a barrow in the streets. Still so far as earning money goes, it is as good a trade as any, and in decent shops an apprentice would be tolerably comfortable; in the low back streets there is drunkenness and misery.

I think it would be a good thing if all apprentices worked only from 8 a.m. to 8.m., and had an hour for dinner out of that; it would be better for the lads, and no worse for the masters; but they are curious men, and think it does a boy no harm to work too hard for half the year, if he is nearly idle for the other half.

One way of accounting for there being fewer apprentices is that the wives and daughters of journeymen take the place of boys more than they used to do. Nearly all gentlemen's waistcoats, even for the best houses, are now made by women; and in the ready-made trade the sewing machines are commonly worked by women.

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38. *Mr. Leman*, Great Pulteney Street.—I have one apprentice; I got him from the parish, he has been here five months; I had one previously, who served his whole time with me; their hours of work are from 7 a.m. to 8 p.m.; it is only on an emergency that they ever work later. When I was an apprentice the hours were from 6 a.m. to 8 p.m.; as a young man after I married, I often worked from 5 a.m. to 11 p.m. I used to have at one time then a youth of 17 to help me; I lived in Greek Street, Soho, and he in Lambeth; he must often have left home soon after 4 a.m., and not got back till midnight. Such hours are not common among journeymen now, but still they work, as you may say, all hours, and seldom do anything on Monday. For instance, if I had more work than I could conveniently get through in time, I should not hesitate to send a coat out this morning to be finished by to-morrow morning; the journeyman who would do that might have a wife to help him, and they two would probably sit up till 2 a.m. over it. Instead of the wife it might be a son; more likely a son than an apprentice; their children begin to help at 11 or 12 years old; they become sadly precocious, and many know at 15, things they had better not know at 20. The rooms they work in are most unwholesome; the stench is enough to knock you down; you go to the door perhaps and open it, but shudder to go farther into the room; there are hundreds of such places within five minutes walk of this shop of mine. No doubt it would be the best thing possible for the health of men and boys too, if all were to work regular hours in large shops, but I do not know how that could be managed.

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39. *Mr. Jarvis*, Victoria Terrace, St. John's Wood.—In London only the journeymen and the small masters ever take apprentices, and not very many of them do; they have only one or two at most at a time. Since you ask me I must say I think apprentices to journeymen in London are to be pitied; for they have wretched rooms to work in and to live in; and often work very hard at the end of the week, because their masters do nothing at the beginning. I use to take out west-end work as a journeyman myself. I have not had any apprentices since I had a shop.

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40. *Apprentice* at Mr. Lenney's, Grosvenor Road, St. John's Wood.—I was apprenticed under a regular indenture at 15 years old; I live in the house. The hours I work are from 7 a.m. to 8 p.m., with an hour for dinner; sometimes I go on till 9 p.m. Those are the usual hours for apprentices in all the shops of small masters. They work as long when they first come, but are not kept to it so much at first. Most are bound at about 14 up to 21. They are worse off who are with men who take out work for the west-end houses, for their rooms are very bad, both for working and living; and they waste half the week, and so do double work for the rest of it; but in small shops like this the work is regular.

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41. *Mr. Merry*, Hampstead.—The usual hours in London are from 6 a.m. to 7 p.m.; where the shops are regulated by the houses of call they are never later, for overtime is not allowed; extra hands must be got if there is a press of work. The sweating work is usually taken by men who have run the gauntlet of all the good shops, so to speak, and are too disreputable to stop anywhere. Some apprentices live away from their masters: they have about 2*s.* a week at first. I was apprenticed in the country; the hours there are much about the same; that is much better for a lad than London. I never knew a London apprentice in our business good for anything; they do not even learn their work properly.

St. James's Workhouse, Poland Street.

42. *Mr. Tett*, who keeps the books relating to the boys apprenticed from the parish of St. James, Piccadilly, informed me that the last case of binding to a tailor was more than 18 months ago, in March 1863. During the current year (up to Nov. 10) nine parish apprentices had been bound, three of them to boot-makers. The average number of apprenticeships is from 9 to 12 in the year. The lads are seen from time to time by some of the parish authorities, but complaints of the length of hours of work are never made, and he believed that they rarely work more than 10 or 11 hours in the day. Separate sleeping accommodation is always insisted on for their apprentices, and great care taken in selecting proper persons as masters; they are never apprenticed to journeymen.

Messrs. R. and H. Parnall, Bishopsgate Street.

43. *Mr. Parnall* stated to me that all their work is given out to persons who work at home, or for middle men; of such persons quite seven-eighths are females, and the rest adult males, who "press" or sew button holes. This he considered to be the usual practice with wholesale clothiers.

BRIGHTON.

Brighton.

44. *Mr. Wood*, Western Road.—The usual hours for tailors in Brighton are from 7 a.m. to 8 p.m., with an hour for dinner; these are scarcely ever exceeded. Our season is for three months in the autumn and about four months in the spring; but if we are pressed, we can always give work out, or take strange hands on; there are always men to be got.

Some masters take apprentices, but none have more than three or four; some do not take any; I believe none are indoor apprentices. The worst part of the business is the state of the workshops; most of them are very ill ventilated, and from having the stoves in them, are very hot. I am sure parents make a great mistake, when they put delicate children to our business; it requires, at all events under its present conditions, a strong constitution.

The journeymen "sweaters," as they are called, sometimes have one apprentice or boy to sew for them; he often lives with his master. The habits of these men are frequently very irregular; the Monday and Tuesday of the week are wasted, and work goes on till 11 or 12 p.m. at the end. There are many things bad for young boys, no doubt, in that system.

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Brighton.

45. *Shopman* at Mr. Willard's, Western Road.—I have been in the trade many years, and have worked in many shops here and in Lewes, some of the best and some of the worst. The regular hours are 13; from 6 a.m. to 7 p.m., or from 8 a.m. to 9 p.m., with an hour for dinner. A master takes two or three apprentices at 14 years old for seven years; work is very rarely longer than the 13 hours. Some of the journeymen who take work out have boys under an agreement; their hours must depend upon the habits of the men.

The really bad thing in our trade is the state of the workshops; at one place where I worked the room was underground, and the heat of the stoves, and stench of dung and refuse from a neighbouring stable-yard was quite sickening. I have brought three of my sons up to the trade; one has been killed by it, and the other two look as pale as they can be; they were not naturally unhealthy; they are quite different from two other sons of mine, one of whom is with an upholsterer and the other with a watchmaker in the town: the latter does not make any part of the watch, but only cleans, or puts together parts that are made elsewhere.

LEWES.

Lewes.

46. *Mr. Whiteman*, High Street.—I have had great difficulty in getting apprentices: indeed, I have none now. My foreman tells me there is only one boy apprenticed to a tailor in Lewes; they seem to prefer the printing offices; I do not know the reason. I do not think sewing machines are much used in this town.

CAMBRIDGE.

Cambridge.

47. *Mr. Sabberton*, Sidney Street.—Boys are rarely employed in the shops of master tailors in Cambridge. The journeymen who take work out to their own homes have apprentices, but not more than one at a time; it is not the habit for several such men to work together, but the man and his boy will be by themselves. The Cambridge journeymen are generally steady men, and it is much better both for the morals and the health of the boy to work in that way with one man, than to be in a workshop with 20 or 30.

[Mr. Sabberton, junr., confirmed this remark from his own experience of the latter case.—H. W. L.]

These boys are usually apprenticed at 13 or 14 years old for four or five years; if they live at their own home, a premium of about 10*l.* or so is paid, and after the first year they receive a small sum per week, beginning at about 1*s.* Some live with their masters.

The regular hours in the trade, when anything is going on, are from 6 a.m. to 8 p.m.; in term time they not unfrequently work longer. I had men last week working for me almost night and day; that was at their own homes. The apprentices in ordinary cases work as long as their masters, but not in extreme cases, as that I have just mentioned; for work beyond the regular hours they are paid something extra.

I know of one man, a very respectable journeyman, who has two apprentices; one has just gone to him, the other has been with him two years; the latter has been working from about 5.30 a.m. to 8 and 9 p.m. in the last term or two; that I should say is about the full extent of apprentices' work. The relations of these boys are connections of my own, so that I have special opportunities of knowing about them, but I hear a good deal about others also from time to time. The elder one has certainly not been injured by his work: indeed, his health has improved, and so have his manners.

MAIDSTONE.

Maidstone.

48. *Mr. Hills*, Week Street.—Journeyman tailors in this town work on the premises of the master tailor; they do not take work out. Very few lads are apprenticed to the trade now. I have 18 or 20 men usually working for me here. I have only one apprentice, and he is almost out of his time; he is not an indoor apprentice, but lives at his own home; that is usually the case, I believe, in Maidstone. The nominal hours are from 6 a.m. to 8 p.m., but the men are very irregular, and do not work so long as that unless we are busy; occasionally in busy times some might come as early as 5 a.m., and some might work until 10 or 11 p.m. Our busy season begins at the end of March or early in April; it depends on the weather. While we are busy, we cannot get enough hands for our work, but still lads seem to prefer to go to other trades. Apprentices will generally work as long as the men, but I should think it would be very exceptional for any to work later than 9 p.m., and that only occasionally, and not till they are 16 or 17 years old; mine does not come till 8 a.m.

The custom formerly was to have an indoor apprentice, who had for the first year or two to clean the boots and knives, and do household work, and go on errands, but now a boy is usually kept for that purpose.

[Mr. Hills' foreman and several of his workmen to whom I spoke confirmed this statement; they could not reckon up more than seven or eight apprentices in the town altogether.]

49. *Mr. Bridgland*, King Street.—I had not had any apprentices for six or seven years, until lately; but I thought it would be well, if possible, to have some coming into the trade under my own eye. I now have one of about 16, and two older lads of 19 or 20, who are in fact improvers, and have already been for two or three years at the business with some small man in a neighbouring village. That is how tailors learn their trade now; the number of lads coming into the trade is certainly smaller than it was; and they are to be found in country villages, rather than in towns. A village tailor will rarely have more than one apprentice at a time.

The hours of work for apprentices are rarely more than from 7 a.m. to 8 p.m. I do not think that any respectable master would wish an apprentice to work longer than that, except under peculiar circumstances. I do not think apprentices are overworked at the present day; not in places like Maidstone at all events.

[Mr. Bridgland's shopman concurred in these remarks, and added that the number of tailors in England and Wales, according to the census, was one-tenth less in 1861 than in 1851, taking into account the increase of population. He stated also that he did not think there were more than a dozen lads apprenticed to tailors in Maidstone.]

Hatters.

Mr. H.W.Lord.

London.

n.

HATTERS. (See also 2nd Report, App. pp. 160—162.)

LONDON.

Messrs. Hall, Brothers, London Wall.

50. These gentlemen conducted me over the whole of the premises, and expressed themselves very decidedly in favour of reasonable hours of work and extended education. On the former point they stated that they had during the present year adopted a strict rule of closing at 8 p.m., the doors being opened at 7 a.m. In the previous year work had frequently gone on till 10 p.m., especially in the months of September and October (which with them, though not generally in the trade, were particularly busy months). They were, however, quite satisfied that they had got through more work in this year than they had before, and attributed it in the main to having got the men to be regular and to begin earlier, usually at 8 a.m., in place of working late.

51. Mr. S. Hall informed me that it was not uncommon 15 years ago for work to be continued till 11 and 12 p.m., and he had himself sometimes worked all night. It was then a rare thing for the wages to be paid till 8 p.m. on Saturday; such late hours, however, at all events so far as they were concerned, had ceased for years; and on Saturday they usually left at 4 p.m., or if very busy at 6 p.m. In respect of the Saturday there had been a general improvement thoughout the trade, and probably the hours were generally less than formerly.

52. There are 30 journeymen and five apprentices employed on the premises, the Messrs. Hall not being restricted as to the latter by the rules of the Trade Union. Apprentices are not taken until about 15 years old; as for a younger boy the weight of the iron (10 lbs.) on the wrist would be too much. There are also four or five boys who help the men, and are hired and paid by them; they fetch beer and food, and cook for them, empty the water away, and clean their boots, but do not assist in the manufacture otherwise than by fetching and carrying things.

53. Mr. S. Hall also informed me that they had a small library for the use of the workpeople. He and Mr. Hall senior observed that they would be very ready to adopt any general system of letting the boys leave earlier, at 6 p.m. for instance, to go to evening school, if that were thought desirable; but individually they had great difficulty in exercising any direct influence in that respect from the fact of the men and boys residing at long distances from the workshop, and in different parts of the metropolis.

54. Work is also given out to men who work exclusively for the Messrs. Hall, but in workshops of their own. Mr. R. Hall stated that the number of small men in the London trade working at home varied very much in a few years: it had been large some years ago, had of late been very small, but was in his opinion again increasing.

55. One lad of 16 is chiefly occupied in turning a large hand wheel for polishing the hats. One wheel does this work for all the journeymen, each hat taking about two minutes; it is heavy work, but not continuous; several men of whom I inquired, told me that they had not begun this work till 16 or 17 years of age.

56. The youngest boy was 11 years old, and he had been only a few months there. He told me that he had not ever worked longer than from 8 a.m. to 7 p.m. He had been to school before coming to work, and could read and write.

57. Another of them said that he was 13, and had been at Messrs. Hall's three months; his present hours were from 8 or 8½ a.m. to 7 p.m.; he had worked from 7 a.m. to 8.15 p.m. in the busy time, but never longer. He could only read letter by letter. He had begun at another hatter's at 10 years old, and had not worked there longer than here.

58. A third, "Jemmy," who was 14, had been 1½ years at work; from 8 a.m. to 8.45 p.m. was the longest time he had ever worked. He could read a little, but had to spell the words "saints" and "image" letter by letter. He had begun work at a cooper's at 10.

59. *Sidney.*—I am 16; have been apprenticed here two months; used to help the men before; began that two years ago; used to have 10*d.* a week from each man; that is 1*s.*, and 2*d.* off for stoking. I used to help a good many, and when I was 15 earned 12*s.* a week on the average, and when we were very busy 15*s.* We always leave off at 8 p.m. now. Last year I stopped till 10 p.m. sometimes, and began at 7 a.m. sometimes; I did so often in September and October, beginning at 7 a.m. and going on till 10 p.m. on the same day. I used to get very tired, but nothing more. I never did much after 8 p.m. except clean their boots. My health is very good. I used to find the constant running about from the hot room into the cold air give me colds, but that is all. Boys generally come to help the men at about 12 years old; Burgess was, and so was Webb (two whom I did not see.—H. W. L.)

[This lad seemed strong and healthy. Mr. S. Hall told me that he had wished to be apprenticed last year, but it was thought better to wait, as he was then not strong enough.]

60. — *London* (under foreman).—We certainly get more work done now we leave off regularly at 8 than when we went on till 10 p.m. They know they must leave then, and so come a little earlier, and work a little harder. There are two or three shops in London where they still work very late, till 11 and 12 p.m., but as a rule few are later than 10 or 10½ p.m., even when they are busy, and they work late because they will not come at a proper time in the morning.

Messrs. Christy & Co., Bermondsey Street.

61. *Mr. Thos. Williamson* (manager).—We have more than 300 persons of both sexes employed on these premises, about 35 or 36 of them are lads under 18; these are employed in various ways. There are four youths of 15 or 16, who are stokers, one for each room. The habit used to be for five or six men to hire a lad among them for this purpose and to go on errands for them; but they were being constantly sent to the public house, and altogether it was a bad system, so we swept away the whole batch of them.

There are four or five younger boys employed in sorting the hats and putting them in boxes, &c.; that

is mere warehouse work. There are also four or five at the machines for "blowing" and "carding" the fur; they feed the endless felt with the fur, which is carried by it into the machine to be opened, the object being to let the coarse hair fall to the bottom.

These and the last-mentioned are the youngest we have. We profess to take none under 13, but now and then there are exceptions.

We do not apprentice any until they are 15 or 16.

I never have known any serious accident such as the breaking of a limb at our machinery. Sometimes a fresh boy gets his finger squeezed; there was one case of that kind last year, it was mere ignorance and curiosity that caused it, I suppose, for where he ought to be standing there are no wheels or straps near. I think all have very good health; the only possible injury would be from using the hot iron over the shellac, but I have never known any harm caused by it. The irons are much lighter than they used to be; formerly men's irons weighed 18 and 19 pounds, and apprentices' often 16 pounds, but now the heaviest are about 12 pounds weight, and most only 10 or 11.

The hours of work for the boys here are from 7 a.m. to 6 or 7 p.m.; they leave off at 2 p.m. on Saturday. For the first 5 months of the year we are very busy; they do not leave till 5 p.m. on Saturday then, and the journeymen stay till 9 p.m., so would probably an apprentice of 16 years old, but many do not begin work till 8 a.m. or later; the other boys do not stay after 7 even then. The hours in the trade generally are later than ours by an hour or two, but we find that both men and boys can get through enough work for themselves and for us, if they are properly looked after, with very little overtime, even when we are most busy.

The dinner hour is 1 o'clock. A bell rings for the day workers; they take their full hour; piece workers please themselves.

Where they have open fires for heating the irons, the rooms are very hot. We have one kiln which holds 74 irons in a separate room, so that the workshop is not affected. Men are more alive than they were to the importance of ventilation; but it is still difficult to make them understand its full value.

I may, I think, safely say that every one of the boys here can read and write tolerably, and most go to a place of worship and school on Sunday; we make a point of that as far as we can; only last week I refused to take a boy on who could not write legibly.

[62. There are four boys who varnish the bodies; the youngest told me he was 14; he said that the smell made them feel sick for the first few days, but after that they did not notice it.

The youngest in the machine room was a few weeks past 13; he told me he had been employed there for 17 months.

The youngest apprentice told me he was nearly 16, and had been apprenticed for one year.—H. W. L.]

Messrs. Lincoln & Bennett, Nelson Square, Blackfriars Road.

63. Mr. Bennett conducted me over the works, and gave me the following information:—

We are under the Trade Union rules, and therefore are limited in our number of apprentices; they allow two for ten men, and one for every ten beyond. We have six apprentices at present; the two youngest are 16 and 17 years old; they are not apprenticed before they are 15. The youngest on the premises are hired by the men themselves to fetch their work or their beer and meals, and generally to go on errands for them; they are paid 4*s.* or 5*s.* a week. They come at about 12 years old; there is only one younger; he is 11, and only one other as young as 12; there are eight of these altogether, four in the body shop, and four in the finishing shop; one of them is 16.

It is from among these that our errand boys and warehouse boys usually come, and from the latter we usually select our apprentices. There are six boys more in the warehouse; none younger than 16.

The men are all paid by the piece; they take their dinner on the premises. Our busy season is from February to June. From 8 a.m. to 9 p.m. is a fair average of our working hours. The men are later sometimes, but the boys would always go at 8 p.m., for as they do not assist in the manufacture, they are not wanted. We can work to stock, and so keep our men on all the year round; where that is not the case they close sometimes for two days in the week during the slack season.

Besides our men we employ when we are busy 60 or 70 females on the premises; of those we have now six are under 18.

Some years ago there were a good many middlemen in the trade; men that is who worked for large shops at their own houses, employing perhaps three or four others, but they are now pretty well abolished. The great rise in the price of materials has chiefly led to that. The price of calico for instance is double, and shellac, which used to cost 42*s.* per ton, is now 12*l.* I think there is nothing unwholesome in the business. When beaver hats were worn very much, more spirits of wine was used in it. Most of the irons also weigh only ten or eleven pounds now, and we heat ours in French kilns away from the shop, so that no open fires are needed. On the whole you may take ours to be a fair sample of the London trade.

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64. *Benson Perry.*—Am 10 years and 4 months old; work now at a bookbinder's; was at a hatter's in Southwark before I came here; was eight months there; went when I was nine; used to go of errands for the men; a good many worked there; usually worked from 8 a.m. to 7 p.m.; the longest was from 8 a.m. to 9 p.m.; did that every night but Saturday for four weeks together.

GLOVERS. (See 2nd Report, App. pp. 175—180.)

REPORT on PAPER MILLS.—By Mr. H. W. LORD.

To Her Majesty's Commissioners.

Gentlemen,—

Paper Mills. Mr. H.W.Lord. O.

1. The evidence, upon which this report is founded, relates, with one or two exceptions, to paper mills visited by me in Kent, Buckinghamshire, Hertfordshire, and other counties within 50 miles of London, and also in Lancashire. I have not been able to obtain any accurate estimate of the total number of persons engaged in this manufacture. The census returns for 1861 give only 16,195 males and females of all ages so employed in England and Wales, including London. Messrs. Grace of Newcastle, on the other hand, give 100,000 in round numbers as a fair estimate for, I presume, the United Kingdom. (No. 196.)

2. In order to arrive at a fair approximation, I consulted the Messrs. Balston of Maidstone, and went through the Papermakers' Directory for 1864 with them; the result was, that the number of employers in England and Wales appeared to be at the least 350, exclusive of those whose mills were still.* The 25 mills, from which I have received returns, show an average of over 180 persons to each mill, the numbers varying from 42 to 631. This average would give a total of 63,000, reckoning only one mill to each employer, whereas it is not uncommon for several to belong to one person or firm.

I.—Age, Sex, Number.

3. The age, sex, and relative number of children or of young persons employed in any given mill depend in a great measure on the kind of paper manufactured, and on the nature and quality of the materials used; although the habits of the population and the opportunities of other more lucrative or less laborious occupations in the immediate neighbourhood have probably a greater influence in this respect.

4. Persons of both sexes are employed in paper mills. Returns received from 25 show that out of a total of 4,642 as many as 2,454 are females, of whom 624 are under 18, 105 being under 13 years of age.

5. Children begin at 10 or 11 years of age. I found none under 8, and few between 8 and 9. In nearly all the mills visited by me, whatever the kind of paper manufactured, there were some boys under 13 years old; but only two or three had more than 12 such, and few more than 6.

6. Female children (under 13) are not usually employed in mills where straw, "esparto," or other grasses are used; nor, where brown paper and other wrapping paper, or mill boards, are made; nor, where—as is still the case with the best writing, account-book, and drawing paper—the paper is made by hand; unless indeed in any of the above instances paper of other kinds is also produced.

7. In the 25 paper mills above mentioned, 275 of those employed were children, and 721 young persons; so that about 6 per cent. are under 13, and 15½ per cent. between 13 and 18 years old.

II.—Hiring and Wages.

Hiring.

8. In "carded" mills, that is to say, where union men work, no boy is allowed to stay after the age of 15, unless he be apprenticed; by the trade rules one apprentice may be taken for each vat in hand mills, and for each machine in machine mills; one extra one being allowed for so many vats or machines. The number of apprentices in mills of the latter class is consequently much less in proportion to the total number of hands than in those of the former. At one mill in Maidstone, for example, where 382 persons were employed, there were 16 apprentices; at another in the same place, where 375 persons worked, the number of apprentices was only 3; the former being a hand, the latter a machine mill. The proprietors of this last-mentioned mill spoke very strongly of the bad results of this one-sided restriction in forcing them to have a constant succession of fresh boys passing through the mill so rapidly that no interest could be taken in them, instead of their growing up under the eye of the employer and remaining as journey hands when they had learned the trade. (No. 50.)

Wages.

9. The apprentice is always bound to the employer, but usually under a mere verbal agreement for 7 years from the age of 14. (Nos 62, 69.) He begins with 6*s.* a week or more, and rises up to 15*s.* or so, at 18 or 19. The rest of the young ones, by far the major part of those under 18, though not always in the first instance hired by the employer (No. 163), are always paid by him; in most cases, except the rag cutters, by time, receiving a weekly wage with extra payment for overtime.

10. Rag cutters are paid by the piece, the weekly earning of a child from 11 to 13 may be taken at about 4*s.*; that of a young woman of 16, 8*s.* They often purchase their knives of their employers for 1*s.* 6*d.*, which they pay back by deduction of 3*d.* a week from their wages. Some make their knives last 6 weeks, and some 6 months. Children who sort paper shavings are paid about 3*s.* a week. Slice boys, and the younger children of either sex in glazing rooms, earn from 4*s.* to 5*s.* a week; older ones from 7*s.* to 9*s.* The younger "catchers" at the cutting machines earn from 3*s.* to 5*s.*; at about 14 they receive 7*s.*; the children who help in the rag engine-houses are paid about the same amount as the younger catchers; boys of 15, who watch the machine and assist the machine men, often have 10*s.* a week or more.

11. The rate of wages varies with the district; the highest being probably that which prevails in Kent, and the lowest that in Buckinghamshire. It is needless to follow this matter out with exactness through all the details of the different occupations, or localities, which cause variations in the amount.

III.—State of Place of Work.

12. Some paper mills are very commodious, airy, and clean in all departments; even the dust of the "devils" being at all events reduced apparently to its minimum by means of fans, boxes, &c. Others,

* In March 1865.

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especially those of an older date, are very much the reverse; close, crowded, dirty, and hot; contrivances to get rid of the dust in the chopping rooms, or of the steam in the making rooms, being either wholly inefficient or wholly neglected. In several places, where news and other printing paper of a common kind was made, the dust was positively unbearable, the whole room being filled with a cloud so thick that I could scarcely see the features of a person 20 feet from me.

13. Many parts of a paper mill are necessarily very hot; this is the case particularly with the rooms in which the paper is made, or dried, or sized. In some, among the best specimens seen by me, the thermometer stood at 90°, and in hot weather at 100°, in the comparatively speaking cooler parts of the room. A boy aged 10 years and 10 months, who has to stay for 6 of his 12 hours "upstairs" (*i.e.* above the machine, where the paper passes over drying cylinders), describes his place as "precious hot." (No. 20.) So a girl of 16, who takes the sheets from the sizing trough, says she has been ill for a week, through the heat. (No. 128.) At one mill, where the larger sheets were delivered from the size bath on an endless felt through an upper floor into the "dry loft" (where the paper is hung in sheets to dry), the heat of that part of the loft, in which some young women were working, was excessive.

14. The difficulty of contriving a proper ventilation consists chiefly in the necessity of avoiding condensation of the steam, which both spoils the paper and renders the room clammy and miserable. (Nos. 54, 108, 122.) In the sizing room also, the size is very easily chilled, and thereby coagulated so as to become useless. (No. 70.)

15. Much, however, has been done by judicious building in the first place, and by the adoption of the up and down draught principle by means of louvres running the length of the roof (Nos. 6, 108) for the machine-room, and of a chimney ventilator on the same (Watson's) principle, or even the simplest form of a double hook inverted, in use at Mr. Joynson's (No. 5), for other rooms.

16. There is no reason, at all events in the nature of the work, why the rag cutting rooms should not be properly ventilated, and the remark, that it was no uncommon thing for the women employed in them to faint in the summer, should always have—as it has in the piece of evidence in which it occurs (No. 127)—reference solely to the past.

IV.—Nature of Employment.

Rag cutting, dusting, &c.

17. Females of all ages are employed in cutting and sorting rags, or cotton waste. They stand for this purpose at long narrow tables, each having a separate pit of rags and space of the table to herself, part of the latter being hollow and covered with open wire so as to allow the dust to fall through, as the sorter picks or cuts the rag above it. A short strong knife, in some cases part of an old scythe, is fixed upright in the table, the edge being turned from the cutter, who reaches over with one end of the rag in each hand and drags it against the sharp edge. They seem to cut their fingers very often at first, but not very seriously.

18. Rags are in many cases dusted by means of steam power, before or after they are cut; where "bagging" and old ropes are used, they are chopped by machinery. The "duster" in the former case is like a large squirrel cage fitted with spikes inside and raised at one end; the "chopper" is an open wheel, the outer felloe of which is armed with knives and revolves at the mouth of a small trough-like feeder. These are sometimes fed by boys or girls as young as 12 or 13. It is in this department that the worst dust arises: some wear a handkerchief over their mouth and nose, but many do not adopt even that precaution.

19. In some mills the youngest sweep up—a very dusty operation in a paper mill, and one in continual requisition. Children also sort refuse paper and shavings, the cuttings of stationers and bookbinders, to be made up again. Women are likewise occupied in picking and chopping African or other grass; for the latter purpose a kind of chaff-cutter is used.

Grinding, beating, &c.

20. After the rags are cut and sorted, they are boiled in huge iron vessels; these are filled in some cases by women. The number of the subsequent processes, and the order in which they succeed, depend upon the nature of the article to be produced, and in different mills different modes prevail; perhaps the most common course is for the rags to be washed and ground in the rag engines, then bleached, next steeped for 24 hours or so: after that they are dried, and remain in that state till they are required for use, when they are put into the beating engines to be reduced into pulp; thence they pass in that form through pipes at once to the machine or the vat room, where the pulp becomes paper. These "engines" may be generally described as large round open vessels, about two feet deep, fixed on the floor, and provided with apparatus of grinding wheels, strainers, &c., as the case may be, for reducing rag to fibre, or fibre to pulp, or for keeping the contents in motion.

21. The work of children and of women in these engine-houses consists chiefly in fetching and carrying stuff in baskets or "boxes," trucks on wheels in some cases, in filling the rags into the "engines," and, in the case of fine paper, in picking any foreign substance out of the half-stuff, as it is being ground down to pulp in the rag engines. The number employed in this department is never large.

Steam power.

22. The use of steam as the motive power of all the above-named engines is now nearly universal, and even where manual labour is still used for making, sizing, and drying the paper, it is usual to have the rag engines, presses, rollers, and glazing machines, all moved by steam. For the hydraulic press a hand wheel is sometimes used, but it has been found very fatiguing for a lad of 16 or 17. (No. 132.) Only two of all the mills visited by me depended solely, or even chiefly, on water power. (Nos. 96, 157.)

Paper making: 1. By hand,

23. Where paper is made by hand the paper-makers work in crews of three to a vat. Two of these three, the "vatman," who dips his mould or frame into the pulp which the vat holds, and the "coucher," who receives the mould from him and turns the sheet out from it on to a felt or blanket, are always adults; the third, the layer, is frequently an apprentice of 16 or 17 years old. His duty is to take the sheets one by one from the "post," or pile of felts and sheets, after they come from the press, and to place each one smoothly and evenly on a low desk called the lay stool; as he does so, he throws each successive felt on to a "felt board" or trestle within reach of the coucher. He also assists in putting the "post" under the press.

24. When the sheets are very thin the layer requires assistance, which comes in the shape of a "slice boy," often a child of 9 or 10 years old, who "draws the slice." This is a thin wide strip of

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wood covered with felt, and fitted to a handle. The boy sits or kneels before the lay stool, and places the front edge of the slice at the bottom of the last laid sheet, so that the next sheet may be prevented from sticking to it until the top and sides have been laid square. The slice boys are sometimes allowed to throw "the felts," but they are seldom strong enough, as both throwing and laying are "back-aching work." (Nos. 74, 75.) These boys have three or four minutes rest in every 24 minutes, while the crew are pressing, but they sometimes help to "squeeze" in that time. (No. 76.)

2. By machine.

25. When the paper is made by a machine, the pulp passes over a wire or strainer to felts which convey it, as it assumes consistency, to drying cylinders, and through a size-trough to other cylinders, at the end of which it is either reeled off in one continuous web and removed for cutting elsewhere, or cut at once into sheets of the requisite dimensions by a cutting machine attached to the making machine. This is the course with ordinary news and printing paper.

26. In Lancashire young boys called "picker-scrapers," stand on a stool by the side of the paper machine, and rake off the dirt which collects on the "picker" or strainer, over which the pulp flows; this is rather wet work. (No. 164.)

Drying and sizing.

27. For machine-made writing paper of the better class the processes of drying and sizing are much more elaborate; a large billiard-table-like trough, with long endless felts passing through, is substituted for the narrow size-trough, and a series of hollow drums containing fan wheels fills a drying chamber, in some cases so large as to hold at any one time a length of half a mile of paper in motion over the drums. Boys of 10 or 11 are sometimes employed in watching the paper, as it passes over these drums, to give notice to the man of any defect in the paper; but those who watch the cylinders, which are in immediate connexion with the machine, are rarely under 14 years old; these have also to give the men general assistance, and often are apprentices.

28. Girls of 13 and upwards, at either end of the size trough, lay sheets three or four together upon the endless felts, or take them off when duly sized, and part them. Good writing paper is in some cases sized by hand by young women.

Cutting machines.

29. Among the youngest boys are those in the machine room, who receive the sheet as it falls from the cutting machine, or take it from the felt on which it falls, and make it lie smooth on the catching table, a sort of desk below. The drawing large sheets off the felt is said to be often very heavy work. (No. 115, and see 37.) When a small sheet is made, the desk is nearly upright, and the cutting table and the making machine are often separate; but when the sheet is large, the child stands at the end of the paper-making machine, to which an apparatus for cutting is fixed. He is in that case exposed not only to the greater heat generally found in the paper-making room, but also to the longer duration of work caused by having to cut each sheet separately, as the web of paper passes from the cylinders, instead of cutting 4 or 5 at once. He is, moreover, liable to be delayed by any breakdown or other cause, which retards or stops the working of the paper machine and involves labour beyond the usual hours to regain time so lost.

30. I did not meet with any instance in the south of England of a girl under 13 being employed in the machine room, nor are such cases common in Lancashire, though they do occur there; girls from 15 years of age are so employed at some mills in both districts. Where females work in the machine room, it is, I believe, invariably at the "cutter." Both girls and boys are also employed to carry off the sheets from time to time, as they accumulate upon the table.

31. There is usually in the south an extra boy, who relieves one of the others employed at the cutting machine; the number employed at each machine varies also with the size and number of the sheets that are being cut, so that each boy is often not actually at work, or at all events not at the same work continuously, for more than two hours out of every three, or three out of every four, during which he is in attendance, but it may happen that all are required at once, as for instance to help in case of a breakage of the paper.

Glazing rolls.

32. Where writing paper is made, many children and young persons of both sexes are employed in the glazing room. Each sheet of paper is laid, by boys of 10 or 11, or girls rather older, alternately with a thin plate of copper, in a pile called a "wad," which is then carried by lads of 15 or 16 to heavy rollers, and passed under them. After this the wad is brought back to the same or other children, to be unpacked and refurnished. In one case the wads were placed on small carriages, and pushed by girls of 15 and upwards along a tramway on the table to the glazing rolls. The youngest girls in some glazing rooms merely push the sheets along a table between two light calenders, which stand at each end of it and are worked by young women.

Paper sorting, &c.

33. Girls of 14 and 15 are also employed to pick defects out of the paper with a small knife, and to "part" or separate the sheets from each other. Young women, and sometimes lads, sort the finished sheets of paper; if they do not wear rags or finger stalls, their fingers and hands are often cut by the sharp edges of the paper.

Mill boards.

34. When mill boards are made by machine, a boy stands at the end of the machine and with his finger rips the damp board off the reel at each revolution, the circumference of the reel determining the size of the sheet, and lays it on a trestle behind him. This is very tiring when the pile is high, as a long reach is then required. Mill boards are also laid out to dry in the fields or the drying loft, and are taken out from the glazing rolls, by boys of 11 or 12.

V. Hours of Work.

35. The ordinary hours of work in paper mills are different in different districts, and also in different departments of the same mill. Those of the makers proper of hand-made paper—the vats' crew—are usually from 5 a.m. to 5 p.m., or less; under great pressure night and day shifts of 12 hours each have been sometimes adopted.

36. In Lancashire, the usual hours for day-workers are from 6 a.m. to 6 p.m. Cutters and sorters of rags, paper shavings, and the like, whether for hand or machine made paper, very rarely work more, and in the south usually less, than 12 hours a day; sometimes only 9 or 8 hours, and in almost all cases only by daylight. In the rolling, glazing, and paper-sorting departments also, though the ordinary 12 hours are frequently exceeded, the work is usually limited to the day time.

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37. But for all the processes through which the material passes, from the first washing or grinding in the "engine," after being cut, to the machine at which it first becomes a sheet of paper, night work is, in the case of machine-made paper, though not universal, at least the common practice; and, so far as the preliminary washing, beating, or grinding are concerned, the same remark applies to hand-made paper.

Night work.

38. This work is in such cases continued by relays without cessation through the week, usually from 12 on Sunday night to 12 on the following Saturday night. There are two modes of arranging these relays. That which prevails in Lancashire, and to some extent in Kent and other places, is to have each relay work for 12 consecutive hours, from 6 a.m. to 6 p.m., or from 6 p.m. to 6 a.m.; those who take the night turn of one week taking the day turn in the next. In order to effect the change, the set which commences work at 6 a.m. on the Saturday of the week, during which they have the day turn, works on till 12 on that night, comes again at 12 on the Sunday night, and goes on till 6 a.m. on the Monday morning. At that hour they are succeeded by those who have been on the night turn of the previous week. The result of this is that those on the day turn work five days of 12 hours and one of 18, those on the night turn five nights of 12 hours and one of 6 hours, in each week.

12-hour turns.

24-hour journeys.

39. The other system of relays is not uncommon in Hertfordshire, Buckinghamshire, and, so far as the "rag" and other "engines" are concerned, in Kent and elsewhere. Each set works 24 hours consecutively, from 6 or 7 a.m. on alternate days, one set working for the first 6 hours of the week up to 6 a.m. on the Monday, so as, with 18 hours on the following Saturday, to make up the third 24.

Day of 16 hours.

40. In some instances an intermediate system prevails: those who work at the "engines" have their 12 or 24 hours alternate shifts, while those at the paper making machines attend for a working day of 15 or 16 hours' duration every day in the week, a system which might seem to combine all the evils of both the 12 and the 24 hours' relay, without the advantages alleged in favour of either. Each one however, providentially prefers the plan under which he finds himself for the time; a boy of 13, who had been "used to work night and day turns of 12 hours," told me with apparent sincerity that he liked better working from 6 a.m. to 10 p.m. as a general thing, with an occasional variety of coming at 4 a.m. or staying till 1 a.m., at his present place of work. (No. 95.)

Objections to night work.

41. Each system has its advocates, and there are those also who do not hesitate to state their strong objection to night work in any form and for any age or sex, objections based on social, moral, or economical grounds. (Nos. 108, 115, 152.) "When young people of both sexes work through the night "together, it is a bad thing, and is well known to have bad results." (No. 115, see 157.) "I think "night work dangerous, and scarcely profitable," says one employer. (No. 152.) "I must say, for my "own part," says Mr. J. MacMurray, that I very much dislike and disapprove of this night work." And after referring to the social and moral results of the practice, he adds: "My own conviction is, though "I believe that very few employers in our trade agree with me, that if a general Act were passed to "prohibit night work altogether, for male adults as well as for women and children, it would be a benefit "to the trade."

42. The children and young people themselves who are on night and day turns always prefer the latter. (Nos. 109, 113.) "It is so much hotter in the night." (No. 20.) "I could never rest properly "in the day, for the week when I was on the night turn." (Nos. 95, 73.) And of course that is more so, when the night work is occasional. (Nos. 14, 17.)

43. So far as females are concerned, a regular system of night work exists only in those cases in which persons of that sex are employed at cutting machines which are attached to paper making machines, or where they help in the rag engine house. (Nos. 41, 108.) They in some instances work the 24 hours' journey (No. 115), but more often 12 hours in alternate weeks. (Nos. 40, 108, 157.)

44. The question of night work in connexion with the 24 hours' journey will be more conveniently considered elsewhere. (Sect. VII.)

Overtime: 1. In machine rooms.

45. It will now be necessary for me to call your attention to the occasions and the extent of work beyond the ordinary hours, to which my remarks have hitherto been directed. Where night and day turns of 12 hours prevail, it sometimes happens that, owing to the absence of his mate, a youth may go on for a double turn, or the whole 24 hours. This is, however, of rare occurrence. (Nos. 60, 83.) The boys in the machine room, however, have to wash and clean up; this takes place once or twice a week, or more, and occupies about two or three hours, during which both sets are engaged together. (No. 12.) Where the system of 15 or 16 hours' work every day has been adopted, this cleaning up goes on in a part of the time during which the boy is relieved from the cutter; so that, for example, a boy of 13 who was at the mill for 16 hours every day, but was off work for four hours out of that, had to clean up for an hour and a half every other day. (No. 31.)

46. The overtime in the machine room is by no means confined to the hour or two required for cleaning up from time to time. The boy whom I have already quoted (No. 31), had worked twice all night, and once till 10 p.m. Another, whose ordinary hours were the same as those of the last mentioned, 16 in the day, came "once last week at 4 a.m., and stayed till 10 p.m.; worked twice in the week before that "till 1 a.m., and came again at 5 a.m. the first morning after, and at 8 a.m. the second." (No. 95.) At this mill they work all night for about 10 nights in the year. (No. 94.) At a third, where the ordinary hours for the machine are from 6 a.m. to 6 p.m., the average hours of work for the whole year not exceeding 72 in the week, a boy under 13 had been in attendance during the first three months of the year for five weeks of 80 hours, one of 85, three of 90, two of 92, and one of 100. (No. 48.) At a fourth, where the ordinary hours are 15 a day, 5 a.m. to 8 p.m., a boy of 11 had "worked all hours; "often 24." (No. 52.) Another, aged 14, had "often worked 24 hours all together, and 36 hours right "off about six times, in the year during which he had worked there." (No. 51.) A third, also aged 14, who couldn't "say exactly" what were his regular hours of work, "comes sometimes at 6 a.m. and "sometimes at 4 a.m., and leaves sometimes at 8 p.m. and sometimes at 10 p.m., and sometimes goes on "all night:" he had several times worked "all night, and next day too, 36 hours." (No. 53.)

2. In vat rooms

47. Those who make paper by hand rarely exceed 13 hours a day, from 5 a.m. to 6 p.m., and their usual hours are less than 12. One boy aged 11 had, once in about six months, worked from 3 a.m to 5 p.m. he came "ever so many mornings at 4 a.m. and often worked on till a little past 5 p.m., but never after 6 p.m. (No. 76.)

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3. In glazing rooms, &c.

48. It is very common for the boys and girls employed at glazing rolls and calenders to work 14 hours a day, making two or three hours overtime, for a fortnight or more at a time. (Nos. 14, 17). A girl aged 12 worked from 6 a.m. to 8 p.m. for a month at a time; she had twice worked till 12 at night. (No. 42.)* "The smaller ones get very tired by 8 p.m." (No. 169.) Another aged 15 had worked once all night, and once till 12 p.m., in the last year. (No. 43.) At some mills, both machine and hand paper mills, the work in the glazing room lasts for 14 hours a day during the greater part of the year; in one case for nine months out of the 12. (Nos. 50, 69, 125.) At the same mill 13 females (none being children) work at three "hot rolls," four to each, three working at a time and one to relieve, besides a supernumerary; these work the night through two or three times in a week. (No. 50.)

49. The hours in the "sol," or paper sorting-room, are also not unfrequently at some mills prolonged until 8 p.m. from 6 a.m. (Nos. 44, 83, 159, 178). At a hand-paper mill a girl of 15 had worked many times from 6 a.m. to 9 p.m., part in the "sol," (where the picking, folding, and sorting the paper is carried on,) and part in the glazing room. (No. 64.) At another, a boy of 11 came to work at 5 a.m. on most days, and left at 7 p.m., or sometimes 8 p.m. (Nos. 130, 131.)

50. Similarly, a boy of 12½, employed chiefly to take mill-boards out from the rollers, often made 7 or 7¼ days of 12 hours (including meal times) in a week; in five days of a recent week he had made 15 hours overtime; on two of those days he had been employed for 16 hours. (No. 105.)

Work in glazing room and in machine room compared.

51. This work in the glazing room, though not heavy, nor, in point of actual time, so protracted as that of those in the machine room, is in fact equally, if not more fatiguing; for it is continuous and unvarying. I am quite at a loss to understand upon what principle it is considered requisite for a boy of 12, who sits on a stool and keeps sheets of paper straight as they drop from a cutting machine on to a table, to be off work for every third or fourth hour of the twelve, during which he attends at the mill; while under the very same roof a girl of 12, who sits on a stool and takes sheets of paper out from a mixed pile of copper plates and paper sheets, works, for a month together, 14 hours a day without any regular relief or cessation beyond two, or at most three, breaks of half an hour each for her meals. In the former case, moreover, there are often long stoppages, most frequently because the paper breaks, but also to change sorts and for other purposes. These stoppages are said to take up on the average at least one or two hours in the 24 (Nos. 12, 40, 48, 54, 77, 108, 135, 152); and though they may involve more active work on the part of the boy than if he were at his catching table, yet they also give a complete change and bring a fresh set of muscles into play. The child in the glazing room, in busy time at all events, knows no change; one sheet of paper is very much like another; and she has not even the relief of carrying the "wad" to the rollers, for that is too heavy for her, and is therefore left for stout lads of 15 or 16.

Detached cutting machines.

52. In respect of the hours of work, the boys who work at a cutter, which is detached from the machine at which the paper is made, are much better off than those who, as is more frequently the case, work at one which is in fact a part of the latter. In the detached cutter from two to seven reels of paper, according to the nature of the particular machine, can be cut into sheets at once; and four or five reels are often cut at one time. (No. 77, see 55, 134.) The consequence is, that overtime at a detached cutter is comparatively rare, is not excessive (No. 135, 184), and is generally avoidable altogether.

Rag cutters.

53. Rag cutters in some few cases have stayed an hour or two beyond their usual time, but even with that overtime their hours of work would not exceed 13 in the day. It is a rare thing for any rag rooms to have gas laid on. (Nos. 40, 62, 98.)

Effect of abandonment of night work.

54. Where the night work has been given up, as is now the case wholly in some mills, (Nos. 170, 182, 183,) those who work at the beating, grinding, and washing engines, and at the paper-making machines, must be added to the number of day-workers. It is to be regretted that the abandonment of night-work, has in some instances led to a great increase in the amount of overtime. This advantage at least there is in a system of night and day relays, that with the exception of occasional cleaning up, neither set works longer than the full 12 hours, inasmuch as each is obliged to make room for the other at the engines or machines, where both sets work. When, however, this restriction is removed, the effect appears to have been, not only to encourage longer hours on the part of those who had been thus prevented, but by the infection of example to lead to a general disregard throughout the works of even the employers' orders in that respect. "The cases which you tell me have occurred on "my works, of children staying till 12 at night, and all night, are in direct violation of my express "orders to the foreman, and they need never occur at all." (No. 159.) The cases were those of a girl of 12, who had worked in the very dustiest of all the occupations, at the rag chopper, once or twice till 12 at night (No. 162); and of a boy of the same age, a picker-scraper, who had worked at the paper machine three or four times all day and all night. (No. 163.) Working till 9 and 10 p.m. from 6 a.m. was, as might be expected, when the above instances were found, by no means uncommon. The same girl had stopped till 9 p.m. "catching" once or twice a week. Another "picker-scraper," not 10 years old, had worked till 10 p.m. "quite a dozen times" in four months, and said that he was always very tired then (No. 164); and other boys of 13 and 14 had stayed till 9 p.m. "many times."

VI.—Meal Times, Holidays, Treatment, Accidents.

Meal hours.

55. In the machine-room and the rag-engine house, the work goes on continuously without any stoppage for meals. Mr. Wrigley (No. 159) has at some length explained the necessity that exists for such a system. At the same time it must be observed that the children and young persons have opportunities for leaving the room from time to time for short periods, and in most places are allowed to do so. This, however, often depends on the good nature of the man under whom they are working, and, in the case of the paper-making machine, on there being a spare hand on the spot, to relieve them by taking their place.

56. It is common for them to take their meals in the machine-room, but the practice of having one boy more than is wanted in the ordinary course of work, enables each boy or girl at the cutter to take

* This girl had worked at 10 years old every night for a fortnight till 9 p.m. from 5 a.m. She was then working at a "ruling "machine," an occupation connected with the business of a wholesale stationer, and not usually found in a paper mill.—H. W. L.

20 minutes or half an hour for meals twice in 12 (No. 20, 40), or three times in 16 hours (No. 31). Where the cutter is not attached to the paper-making machine, the former is usually stopped for meals. (Nos. 78, 80.)

57. In other departments half an hour or an hour is allowed for dinner; they have half an hour for breakfast, or for tea, if they work 12 or 14 hours; in some cases, even where the day's work is 11 hours or less, this second half hour is given; a third half hour is usually allowed when they work overtime, 15 hours in the day. They go home for dinner if they live near enough.

58. Sometimes only one meal of half an hour is taken during the 12 night hours. (No. 14.) In the 24 hours' journey supper is taken at 10 p.m., and "a drop of tea and a wash" at 4 a.m. (No. 82.)

59. Those who are on the night turns usually take their breakfasts as soon as they get home, and then go to bed for six or eight hours till dinner, and if they are on the 24 hours' journey, have another seven or eight hours' sleep before going to work next morning. (Nos. 73, 112, 154.)

60. A day or two at Christmas and at Easter or Whitsuntide are usually taken as holidays, but there are no regular holidays throughout the trade. Good-Friday is not a general holiday. "If it were "requisite they would work on Christmas-day as on any other day." (No. 94.) Holidays.

61. The day workers leave earlier on Saturday, usually at 4 p.m. or before. The vats' crew in hand paper mills leave at 10 or 11 a.m. on that day.

62. "There is no ill treatment of apprentices or other boys now as there was once in the trade; they "don't get knocked about as they used to be." (No. 71.) So far as my own observation went this statement seemed perfectly correct. I have not, speaking generally, in any manufactories, seen a happier looking lot of children. Treatment.

63. I have been unable to obtain any statistics relating to the number and nature of accidents in paper mills; they are said to be much less frequent than they were, but there is no doubt that injuries of a more or less serious kind, occur with sufficient frequency to justify Mr. Pomfret* in considering that "fencing" is as necessary there as in print-works. (No. 193.) In one mill two fatal accidents had happened in one year. It was stated, however, that they had not had one for 20 years before, and nothing was known of the causes, as no one was near in either case at the time. The resident surgeon at the West Kent Hospital, Maidstone, informed me that the accidents at paper mills which came before him were seldom more than cut fingers, the worst cases being those caused by the cutting machine, when the top joints were taken off. The "cutter" in many cases is a heavy knife which works horizontally; when the upright bench is used, this is a little way above and in front of the head of the catching boys, and within reach of their hands. At times a sheet will stick and not fall properly, and in trying to pull it down a finger top is taken off; but injuries arise here more commonly from a boy's putting his finger up in play, or being dared by another to do it. (No. 45.) Fingers are often nipped and "broken" in feeding the rollers (Nos. 50, 84), or in leading the sheets of paper through the cylinders. (Nos. 77, 115.) So in feeding the rag chopper fingers have been taken off. (No. 88.) Some of these are apparently not such as would have been prevented by fencing; but I have myself seen shafts and driving straps in such dangerous positions, and so inadequately protected, as to cause me to be very incredulous of assurances that no accidents have happened from such causes. A mere board fixed across the rollers will prevent the hand from being caught. (Nos. 50, 84.) Accidents.

64. Sometimes serious accidents occur. At one mill a boy's thigh had been broken by the cog wheel on which he fell, in consequence of his foot slipping, as he bent forward to lead the paper through. A man's arm had been broken there in a similar way. (No. 106). In another a man's arm was caught as he was "tearing a crack away." (No. 116.) It is to be observed, however, that machinery in a paper mill is driven at a speed much less than that which is usual in the manufacture of textile fabrics. In few mills is the rate for the paper to pass over the cylinders greater than 80 feet per minute, or the speed of the beating engines more than 140 revolutions in the minute. (No. 54.)

65. Horizontal shafting along the floor, and unfenced cog wheels, are especially dangerous where women work. Crinoline is forbidden in several mills on this account. (Nos. 9, 77.) Cases have been mentioned to me of women being killed through being caught by the back of their dress, as they stooped or stepped back for a temporary purpose. (No. 77.) In another a man's arm was broken in saving a woman from a similar fate. (No. 120.) The use of loose blouses or aprons by the men is a source of great danger; these also are frequently forbidden. (Nos. 118, 152.) Several cases of deaths arising in this way have been mentioned to me. (No. 62.) Instances of injury from the careless shifting of straps are found to occur. In one a boy was supposed to have been killed in putting on a strap to set some machinery in motion at which he wished to commence working, without waiting for the man, whose business it was to put it on. (No. 34.)

66. It seems that the existing modes of modifying the speed of the paper-making machines render it necessary to leave some large driving wheels and pulleys unfenced. This modification is effected by the addition or removal of a piece of felt from the circumference of the wheel (No. 77); and in effecting it accidents have occurred. Parts of the machinery are commonly oiled and cleaned while in motion; precautions against accidents from this source in the nature of wooden galleries over shafting and heavy wheels are usually adopted, but they are often not sufficient to prevent serious injury. Long tubes are used for pouring the oil into parts where it would be dangerous to go close, and in one instance I noticed that lubricators were fixed on the axles of the wheels of the drying cylinders. (No. 77.) One case is mentioned of a man who was caught by his "slop" by a shaft overhead as he was oiling; "no bones "were broken, but it was a very near thing . . . as it was, the front of his body was completely "flayed." (No. 54.) A boy who was cleaning part of the cutter had his finger drawn in and broken through getting the wiper entangled in the cog wheel. (No. 8.)

67. Bad accidents have also occurred though the escape of steam and bursting of rag boilers. (Nos. 77, 116.) The rag cutters seem not to injure themselves much by the cuts which they frequently give their own fingers. (Nos. 19, 45, 46.) A strange case of tetanus occurred in the west of England last year, but I have not met with other instances.

* This gentleman, a surgeon resident at Hollingworth, states that he had recently to amputate the leg of a child who was caught by a shaft in a paper mill while taking its father's dinner to him.

Paper Mills.

VII.—Influence of Employment upon Physical Condition.

Mr. H.W.Lord.

O.

68. With reference to the general health of the persons employed in the various branches of paper making, other than rag cutting and bleaching, I have, I regret to say, very little evidence to offer you. I have endeavoured, by communicating with the clergy and medical men in several districts, to obtain their experience in the matter, and have particularly sought to learn their opinion as to the effect of the 24 hours' journey on alternate days, or the daily work of 15 or 16 hours in the machine room. I have however, for the first time since I have had the honour to be engaged in these inquiries, found my letters generally disregarded and unanswered. In one instance I was told, by an employer, that the clergyman of his parish, to whom I had written, had said that he thought my inquiry a very impertinent one, and did not intend to take any notice of it. Without speculating upon the reasons for this conduct, or assuming that the others, who have not answered my letters, took that view of their object, I cannot but think that the peculiar "local conditions" which compelled one of my few correspondents to request that his name should not appear (No. 190), may exist in one form or another, and perhaps in greater force elsewhere.

Healthy appearance.

69. Under these circumstances there is danger of being misled by *à priori* reasoning. I am therefore bound at the outset to state that children and young persons in paper mills, so far as my experience goes, do as a rule look healthy, and say they are so. Their employers, many if not most of whom are men of superior intelligence and education, express similar opinions. At the same time they are naturally enough indisposed,—and probably from mere habitual familiarity unable,—to see in their own system evils, which may be patent to a stranger. I make these remarks because I find it quite impossible to think otherwise than ill of a system, under which a boy only 11 years of age attends at his place of work for 24 consecutive hours, even though he be off work for the following 24, and whether he have two, three, or four hours of so-called rest during that attendance. (Nos. 79, 82, 136, 137, 151.)

Opinions as to effect of 24 hours' journey.

70. I may observe that my opinion on this point is not without support among paper manufacturers who work upon a different plan. All, both those who have adopted the system of 12 hours' night and day shifts throughout the pulp-preparing and the paper-making portions of their works, and those who apply that system only to the former, and make their paper in daily shifts of 15 or 16 hours, concur in condemning the 24 hours' journey, and this, whether they have adopted one of the other plans from the first, or have deliberately abandoned their earlier practice. (Nos. 11, 26, 60).

71. Thus Mr. Saunders' foreman at Dartford, while he thinks the 24 hours' journey "does no harm at "all to adults," says it is "certainly too much for their physical condition at that age" (under 18). (No. 40.) The manager of another mill there finds "all of them much more fit for work, since the 12 hours' shift "has been substituted for the 24." (No. 45.) Mr. Simpson, of Maidstone, whose men work the 24 hours' shift, has the 12 hours' shift for boys, "not thinking it right that boys should work so long as 24 hours." (No. 54.) "As to boys," said Mr. Venables, of Taplow, "it stands to reason that it cannot be good for them." (No. 98.)

72. On the other hand, employers, in whose good faith I have implicit confidence, declare that they do not find the health of the boys injured by the 24 hours' work (Nos. 62, 77, 152), and the men (Nos. 79, 153, 154, 155), if not the boys themselves (No. 80, 151), prefer it, from mere force of habit (No. 115), and perhaps, as one said to me, "because they often do nothing for 7 or 8 hours out of it, and work "in their garden, and do as they please, on the alternate days." (No. 114.)

73. I have received a letter from a clergyman, held in high respect, as I am well aware, by the owners of the paper mills in his parish, whose "local conditions" are not so "peculiar" as to prevent his giving me the benefit of his experience, though his regard for them is strong enough to make him wish to suppress his name. "This," says he, speaking generally of juvenile work, "is bad for them physically, "but the chief injury is the night work in the mills, where many are kept on 24 hours at a time "(and the same off): the effect of this is grievous in some instances;" and in a second letter, "occa- "sionally we have seen a lad looking very badly, and on inquiring, his mother has said, 'Oh, it is "'the night work,' or 'the journey, 24 hours' work.'" (No. 188.)

74. It is to be observed, that the long turn of 17 or 18 hours which occurs once in every fortnight at mills where the 12 hours' night and day shift prevails, is always spoken of as being very fatiguing. (Nos. 20, 104, 110, 113.) It may be said that irregular or intermittent overwork affords no fair test of the effect of a regular system of 24 hours' work, "on and off." This is an argument, however, which cuts both ways. The plan recently adopted at Mr. Joynson's, of leaving off at 6 p.m. on Saturday, and not beginning again till 6 a.m. on Monday, seems to have given great satisfaction in all quarters. (No. 11.)

Statements of children as to effect of overtime.

75. The account given by children themselves of the effect of working much longer than their ordinary time never goes beyond an admission that they get very tired and sleepy. So says a boy of 14, who usually works from 14 to 16 hours a day, about working all night. (No. 53.) "I shouldn't at all like to do it for 24 hours at a stretch," said a machine minder, aged 18; "I get "quite tired enough after 12." (No. 102.) Girls of 12 in the glazing rooms get very tired and sleepy by 9 p.m., when they begin at 7 a.m. (Nos. 14, 17.) A girl of 15, working for three nights together till 9 p.m. from 6 a.m., "was tired, but not so very much" (No. 64); another, aged 17, found 6 a.m. to 6 p.m. quite long enough for her. (No. 44.) One manager thinks 12 hours' constant work at the cutter too long for boys under 16, without an extra hand to relieve them occasionally. (No. 45.) An employer thinks seven hours a day among the rags quite long enough for women of any age. (No. 152.) And another says of his own rolling (glazing) room, that work from 6 a.m. to 8 p.m., a common thing there, is too long for the boys and young women who are in that department. (No. 69.) "I found "those hours," said a boy, who was about 13 at the time of which he spoke, "not exactly tiring, but "very wearying, for there is no change." (No. 74.) It is pleasant to be able to remark that in the interval between my first and second visit to the Messrs. Balston's mill at Maidstone a regulation was made that no girl under 18 should work more than 12 hours a day there, whether at the same or at different kinds of work. (No. 62.)

Heat of rooms.

76. The extreme heat of some of the rooms is no doubt injurious in some cases. I have already noticed the case of the girl in the sizing room, who had been off work for a week at a time with "a sick head-

ache," caused by the heat. (No. 128). The heat of the machine room is also complained of (No. 192), and in one case a man whose son, aged 15, had worked sometimes from 4 a.m. to 8 p.m. at the cutting machine, still thought that it was the heat more than the hours of work that hurt him. (No. 156.) Paper Mills. Mr. H.W.Lord. O. Rag cutting.

77. The evidence which I have received relating to the effect of the dust in cutting rags is very varied in character. Some are not, they say, at all hurt by it. (Nos. 34, 58, 77, 152.) Others cough it up (No. 118), and it is admitted to be bad for persons with delicate chests. (Nos. 118, 119, 152.) At the same time I have myself seen, in rooms properly ventilated and not overcrowded, girls and young women engaged in cutting rags, whose appearance was as healthy as it well could be. Young women have stated to me that they found rag sorting and straw chopping preferable to work in a cotton factory, or even to domestic work. (Nos. 119, 171–3.) Two who were employed at chopping machines, the most dusty of all operations in the works, stated that they didn't mind the dust, had never been absent through illness, and liked their work better than hay-making (Nos. 174–5); while at the same works a young woman of 20, who had been a rag sorter, said that she had been once ill for three days with the dust, which made her feel sick and cough. (No. 176.) At other works a girl of 12, who fed the willow, stated that she had been ill two or three times with the dust, "bad on her chest," and had once stayed away from work for a week. (No. 160.) So a witness (No. 169), who admits that "the rag chopper "makes a tremendous dust, none can stay more than a few months at it," says very shortly afterwards, "I don't think any part of the work is bad; none of ours stop away for illness; for the first "three or four days after beginning they are generally poorly in the morning; that, I think, is more "the coming to work before breakfast, when they are young and not used to it; that soon goes off." It seems, at all events, a common practice among them to "take opening medicine for the dust." (Nos. 56, 57, 59, 118.)

78. The manager of the Standish mills, while he considers that the work in paper mills is not necessarily unhealthy, allows that, if the work goes on in places which are not properly contrived for it, it may be so, and observes that "the rag sorters often have to work crowded together in dusty rooms, all stifled "up; sometimes you have 40 or 50 women together in one badly ventilated room." (No. 170.) My own experience is in accordance with those remarks. The ill effects of continually inhaling fine particles of dust and fibre are now universally acknowledged; and the remarks already made by me in this report will have shown you that the atmosphere of certain rooms in paper mills is in many cases literally charged with such particles.

79. Bleaching powder, which is now generally used in the South, is innocent; but where the material is "gas-bleached," a practice which still prevails in Lancashire, and to some extent elsewhere, injurious results follow, unless proper precautions for the escape of the chlorine are taken. One witness calls it "killing work." (No. 153.) "I was at that for three years, and it nearly made an end of me; I used to "spit blood; if it catches you when you open a chest, it throws you right down in a kind of faint; you get "blown out like a barrel." (No. 154.) "I remember being made ill for a week almost, by getting into "the smell of some, when they were using it very strong. Sometimes the gas comes out of the cham- "bers, and you can smell it half a mile off; it nearly chokes you" (No. 169); and though this witness goes on to state that it does no harm that he knows of, others speak of its getting on the lungs and "making you spit blood. When the bleaching is done in a hurry, it is used strong, and then it "is very bad;" the lads and women being just as likely in most mills to be exposed to it as the men who work in it. (Nos. 170, 180.) Similar effects, though in a modified form, are produced by the use of the "souring" (vitriol) put into the open "engine" to bleach "low sorts" of rag; the chlorine gas is set free and "gets on the chest and makes you cough and retch; I had to go to the "doctor and take pills" (Nos. 117, 152); "it made me get puffed, and blew me up like a toad." (No. 118.) They are frequently absent for one or two days at a time in consequence. Bleaching.

VIII.—Moral Condition.

80. The moral evils of young persons of both sexes working through the night together, is alluded to by several as being well known to have bad results. (Nos. 115, 108, 157.) The early precocity, developed by means of the children leaving school and getting employment in the mills, is also regretted in a letter to which I have already had occasion to refer. (No. 190.)

81. I found a rather higher average state of education among children and young persons in paper mills than in some other employments already noticed by me. Most attend Sunday schools, but only Sunday schools. The fact of paper mills being for the most part in country districts, where the work people, being inhabitants of some one or two villages at most, are not lost sight of, as in the population of a large town must be the case to a great extent, may account for the instances of gross ignorance being comparatively rare; at the same time I found in mills, where the children were above the average of education, several of 12 and 13 years old, who did not know whether England was governed by a king or a queen; had never heard of Queen Victoria, and did not recognize, when I mentioned them, the names of the chief towns in the county where they lived. Education.

82. The reading powers of most were very limited; I should say that not 25 per cent. of all, whom I tested, could read one verse of an ordinary hymn without a mistake. At a mill in Kent four boys, aged respectively 11, 12, 16, and 18, examined by me in succession, could none of them read. At another mill in Buckinghamshire, out of six boys, of ages varying from 11 to 14, five knew only their letters; the sixth, who was selected as the best reader, spelt aloud every word of more than one syllable before pronouncing it, and made several mistakes.

83. Very few seem to have remained any length of time at a day school. I found it difficult to apply any fair test of the extent of their "schooling" beyond their reading powers, for scarcely any appeared to know, or to have learned, anything about English geography, or any but Bible history, derived from the Sunday school; and the answers given me upon the last-mentioned subject were not usually very encouraging. Many could not tell me the name of one of the Apostles or the Evangelists, though I helped them in every conceivable way by putting simple questions in a conversational manner, and almost leading up to the answers. I often asked the name of the Apostle who betrayed Christ, or the names of the two brothers who were called to follow Jesus, as they mended their nets by the seaside, or who Pharaoh, Joseph, David, Daniel, or Elisha were. To these and similar Tests of knowledge.

Paper Mills. Mr. H.W.Lord. O. Sunday school.

questions I frequently received very incorrect answers, and very rarely were two or three answered correctly by the same child; in some cases the answers were very absurd. I do not, however, attach undue importance to such answers, as proving an ignorance characteristic of any particular trade or occupation. Any one who has ever taken a class at a Sunday school, knows how often absurd answers are given upon matters, as to which children are supposed to have had full instruction. But the fact that such answers are so commonly given by those who do attend school on Sundays, and the miserable shortcomings in the way of reading which such Sunday scholars exhibit, point to the necessity of a much more extensive and regular system of enforced attendance at school on week days, if children are ever to understand and think about what they are taught in Sunday schools, and are to be left to improve themselves by self-culture or night schools, after they are 13 years old.

Poverty not the cause of ignorance.

84. In most instances in which I made the inquiry I found that the parents of ignorant children were in receipt of fair wages. In one case the father of a boy of 10, who had not been to school since he was eight years and six months old, was receiving 39*s.* 6*d.* a week in the mill, where this child also was getting about 5*s.* a week. He could read a little, but could not answer any question from the multiplication table, nor tell me the names or the number of the Apostles or of the Gospels. In another case a boy, aged 13, who could only read the word "Jesus" letter by letter, and was utterly ignorant of Bible history, was employed in the same mill with his father, mother, and two brothers: the joint weekly earnings of the family were 75*s.*

Encouragement by employers.

85. At some few mills attempts are made by the employers, or with their sanction, to give some rudimentary education to the children who work there. I have found in such places the state of education decidedly above the average. At Mr. Hall's, of South Darent, the men themselves teach the boys. Mr. Joynson has erected Sunday and day-schools at St. Mary Cray, at the latter of which about 160 children under 10 years of age attend. At Nash mill (Messrs. Dickinsons) there is a day-school at which nearly all the children attend on one day, at least, in the week. Attendance at night schools is also encouraged by several other employers. Perhaps the most signal instance is that afforded by Mr. Morley's mill at Wooburn (Bucks), where one of the clerks is accustomed to take half of the lads employed there on alternate days through the week for half an hour of their dinner hour. Here, 9 or 10 out of 24 read to me with comparative ease one of Longfellow's poems, and several of them did so with a propriety of emphasis and intonation, that I have not met with elsewhere.

General Remarks.

Limitation of hours of work.

86. Any proposal to limit the hours of work, or to abolish night-work for females and persons under 18, is looked on with very general disfavour by paper manufacturers, in the south at all events. (Nos. 101, 103.) "In order to get any profit out of the trade, we must work the machine more than 12 hours a "day, and must employ boys to catch the sheets." (No. 24, see 69.) Still some are ready to admit that "a law for boys to make not more than six days (of 12 hours) in the week would not inconvenience "them in their business." (No. 105.) "The prohibition of night-work for children and young persons "in our manufacture, would merely entail extra expense in an increase of wages by employing adults "in their place." (No. 77.) Mr. J. MacMurray, of Wandsworth, points out that any prohibition of night-work, which did not extend to the men, would place those manufacturers at a great disadvantage, who have the cutting machine attached to their paper making machine, and who are therefore unable to reel off the paper made in the night and cut it, several reels at a time, during the day, as is the practice where the two machines are separate, but would have to employ men at their cutters through the night. (No. 108.) It is to be observed, moreover, that, as has been already stated by me, loss of time from breakage of paper and other causes is of frequent occurrence and of very varying extent. (*See supra*, § 51.)

Half-time system.

87. Several employers think that some preliminary education might be insisted on as a condition of the employment of any child in a paper mill. (Nos. 69, 134, 135.) There seems to be no reason in the nature of the work in which the younger children are employed, against the adoption of the half-time system. (Nos. 134, 157.) Mr. Balston, of Maidstone, thinks that it would work well for slice boys in the hand paper mills. (No. 62.) The chief practical objection is the distance of the schools in country places. (No. 157.)

88. Where the population is scanty and the school at some distance from the works, there might be some inconvenience at first in procuring the requisite number to attend; on the other hand it is said that the number of children under 13 employed on the premises is in most mills so small that, where older ones could be obtained without a great increase in the cost, employers would probably prefer that course to undergoing the supposed annoyance of the system of school certificates, &c. The history of factory legislation, however, shows sufficiently how by degrees these unfounded prejudices die away, and the letters which I have received from mill owners in several towns of Lancashire do but give point to a truth already long recognized—the successful working of the half-time system.

89. From a letter received by me from Mr. J. Cropper, of Kendal (No. 194), it appears that he has voluntarily introduced a modification of the half-time system into his own paper mills, where the children—only about 12 in number—have been for some time employed in relays each alternate week, the set at work one week going to school during the next. This gentleman, moreover, states generally that he "would be glad to be under the Factory Acts, because it would make it easy to carry out rules "which now, by the carelessness of the parents and the mill foreman, are often broken;" and Mr. Wrigley, after saying that he could "contrive to let the young ones go at 6 p.m., if we were under "restrictions;" adds, "there is no reason why factories should be under restrictions, and not "paper mills." (No. 159.)

I have the honour, &c.

Henry W. Lord.

KENT.

Messrs. W. Joynson and Son, St. Mary Cray.

631 persons are employed here: 35 girls and 60 boys are under 13; 84 girls and 58 boys between 13 and 18; there are 256 females over 18.

1. The subjoined list of the hours of work, &c. was furnished to me by Mr. Hepburn, who had prepared it for me by Mr. Joynson's direction. Mr. Joynson himself conducted me over the whole of his works, which are admirable for spaciousness, cleanliness, and excellence of arrangement, and gave me the fullest explanation of the many elaborate mechanical and other contrivances adopted there by him. Mr. Hepburn afterwards attended me while I examined a number of the children separately away from their work and from the foremen, and at my request verified or qualified their statements as to their age, hours of work, &c.

Occupation and Sex.	Hours of Work.	Age.			Meal Times and Overtime.
		Under 13.	13–18.	Over 18.	
Males.					
Paper-making -	6 a.m.—6 p.m. 6 p.m.—6 a.m. by weeks alternately.	9	18	77	1½ hours for dinner and breakfast; 2 or 3 hours overtime occasionally by those *over* 13.
Finishing - -	6 a.m.—6 p.m.	—	5	28	1½ hours for breakfast and dinner; 2 or 3 hours occasionally made, with ½ hour for tea.
Engineers, carpenters, &c.	6.30 a.m. to 6 p.m.	—	1	15	1½ hours for breakfast and dinner; overtime sometimes.
Glazing - -	7 a.m.—6 p.m.	48	34	12	½ hour for dinner; no overtime.
Rag store - -	7.30 a.m.—6 p.m.	3	—	5	1 or ½ hour for dinner; no overtime.
Overlooker - -	8 p.m.—4 a.m.	—	—	1	1 hour for supper; no overtime.
Total of Males - - - -		60	58	138	
Females.					
Glazing - - -	7 a.m.—6 p.m.	29	51	72	½ hour for dinner; overtime seldom, but occasionally. About 20 (half under 13) work till 9 p.m., having ½ hour for tea. In winter most work only till dusk.
Rag-cutting - -	7.30 a.m.—6 p.m.	6	33	184	½ hour for dinner; no overtime. In winter work only till dusk.
Total of Females - - - -		35	84	256	

The following statement, embodying the information given me by the above-named gentlemen, has been submitted by me to Mr. Joynson, and corrected by him.

2. At the time of my visit (Sept.) the full complement of hands were not present; about 100 more females were wanted in the rag room, and 50 more children in the glazing room, but could not be got; at that time of the year it is always difficult to get hands, as they prefer the change of fruit and hop picking; they would return towards winter, but in the spring even more would be absent. The overtime that did occur would never be necessary but for want of hands.

3. All may, if they like, leave the workroom at meal times, except those employed at the rag engines (beaters and washers), and at the machines. The youngest, however, of those employed at the former was only a month short of 18; the smaller ones in the machine room generally leave their work for meals, but as they may be wanted at any moment, they are obliged to take them in the room, though, as a matter of fact, they are very seldom interrupted. The women in the rag room, though they may go out of that room, are not allowed to quit the premises without a ticket.

4. The youngest girls in the glazing room receive from the first 9*d.* a day; boys earn 5*s.* and 6*s.* a week; at 14 years old one was earning 10*s.*

5. Only writing paper is made at this mill. Water is used as well as steam as the motive power, but is not relied on; and the water wheel is often driven by steam. A lift is used to raise materials from one floor to another. The floors are made of solid cast iron, and tramways are placed wherever trucks have to pass frequently. The roofs are arched, and consist of corrugated iron with a number of fan skylights in the centre of the arch; from the centre of each of them rises an iron chimney ventilator, with a double head bent over and opening downwards; this form has been adopted in order to keep the blacks from descending through the opening, and is found to be successful. In one large room, where large rag boilers are filled by women by means of cranes from an upper floor, this mode of ventilation is not applied, and the only relief to the great heat of the room is that obtained through wire windows at one end.

6. For the different purposes of the work 16 steam engines are used; three solely for driving a fan so as to cause a current of air through the drums, over which the paper passes to be dried after being sized, it being an advantage to dry the paper as cold as possible. The two machine rooms, which are of very great height and length, are ventilated by central louvres along the whole roof from end to end. In one of these rooms the length of paper passing at any given time between the making and the cutting machine is more than half a mile.

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7. All rags are dusted in a machine before they are given to the women to be cut and sorted. This practice is said to give great relief to the rag-cutter, who thereby receives the rags open and free from dust. These machines are all completely covered in by a wooden case so as to prevent the dust from flying about. The necessity for this appeared sufficiently from a view of the deposit of dust and flue, more than half an inch thick, which was lying over all the bottom of the case and bed, accumulated in four hours, notwithstanding that the rags used are of a much finer and cleaner kind than is cut for news or printing paper.

8. Gas is not used to bleach. The bleaching powder is applied in large vessels called tumblers to the rags after boiling, and not, as is usual, to the half stuff.

9. All cog-wheels and pulleys near which any persons were likely to pass appeared to be securely fenced. No crinoline is allowed on the premises. No talking is allowed either in the "sol" (glazing and sorting room) or in the rag room; "nothing is to be done without silence."

10. The work of the younger girls in the glazing room is to help the sheets along a small table from one calender to another; the boys take the sheets one by one from—or lay them between—thin plates of copper; alternate layers of a sheet and a plate form the wad, which is placed under the rollers of the glazing machine. Stout lads of 16 and more are employed at the glazing machines to lift the wads, &c. Young women put the sheets into the calenders and others take them out.

11. Mr. Joynson decidedly preferred the system of 12 hours to that of 24 hours; he had adopted it in 1840, when he resolved not to employ union men in consequence of their resisting the change. He had then picked up any one he could to learn the business, and now all of those he employs are "his own breeding." He had very recently introduced, by way of encouragement to the men, the plan of leaving off at 6 p.m. on Saturday and not beginning until 6 a.m. on Monday, instead of the usual practice of working till midnight on Saturday and commencing immediately after midnight on Sunday. He was hitherto satisfied with the result, and so were the men, for they have the same wages as when they worked the 12 hours more.

12. The overtime made in the machine room by men and boys over 13 was for the purpose of washing up; it amounted to about two hours, and occurred once or twice a week for each set, either at 6 a.m. or at 6 p.m., so that both sets would work at once. The stoppages of the machine for one purpose or another occupy at least one and more frequently two hours out of every 24. Three years ago some of the girls in the glazing room had been on day and night turns for some little time of pressure, but Mr. Joynson disapproved of night work for children. At that time also the glazing boys ordinarily worked from 7 a.m. till 7½ p.m., with half an hour for tea, and the girls usually till 9 p.m.; now they all leave at 6 p.m., and have no time allowed for tea. Although an hour's work was thus abandoned, it was thought that very nearly, if not quite, as much work was done by them in the day as was before.

13. Although some had begun work a year or two ago at eight years of age, none were now taken so young; of those now employed by him one girl and nine boys were between 9 and 10, four girls and 16 boys between 10 and 11. Mr. Joynson had erected both Sunday and day schools in the village where most of his people resided; 300 children attended the Sunday schools, and about 160 the day schools; the age of the latter ranging from infancy to the time at which they could work, usually about 10.

14. *Mary Ann Wapshot* (glazing room).—Am 12; have been at work here a year; am in the glazing room. I help about; when they spoil a sheet I take it away. Work from 7 a.m. to 6 p.m., with half an hour for dinner; am not always at work; often rest and do nothing for some minutes. Have worked right off till 9 p.m., never later; did that for two weeks, up to the week before last, I think it was; had done so before, but never every night for a month. Some months ago worked all night for two nights; that is, came on at 6 p.m. and went away at 6 a.m.; had half an hour at 1 a.m. for a meal; have not worked at night before or since that time;* was doing then the same work as now. Didn't like that, got so very sleepy; so I did if I worked till 9 p.m.; mine is very easy work. I am quite ready to go home by 6 p.m. of a day.

Don't know what county this place is in, nor what county Maidstone is in, nor the capital of France, or of Scotland. Never learnt anything at school about the different countries of the earth. Read Bible at Sunday school. Elisha was a great prophet, and cured Namaan.

[Reads easy words tolerably.]

15. *Mary Abbott* (glazing room).—Shall be 11 next May, so am 10 years and 3 months now; have been a year here; take out the sheets from the copper plates. Always have half an hour for my dinner; take it here.

[Reads a very little.]

16. *Ellen Blackstone* (glazing room).—Am a little over 10½; came to work here a few months ago; Testament is about Jesus; don't know the names of anybody else in it; can't say who His disciples were; think I recollect about two brothers being called from fishing or mending their nets to follow Him; their names were Cain and Abel.

[A nice little girl, very nervous; had to spell all but the easiest words in reading to me.]

17. *Esther Kibble* (glazing room).—Am 12 years and 10 months old; have been here three years; have worked several times from 7 a.m. to 9 p.m., did so for a fortnight last time, that was last week or the week before; always have half an hour for tea when we go on till 9 p.m., as well as the half hour for dinner; generally at about 5 p.m.; am always very tired when 9 o'clock comes; work from 7 a.m. to 6 p.m. does not tire me. I lay the sheets, it is very light work. Once was on night time for a week;* did not like that at all. Can't write my name; know nothing about foreign countries, nor counties and towns in England. (Reads easy words.)

[Another girl from the glazing room, aged 11, read tolerably well, and answered some questions on Bible history correctly.]

18. *Betsy Cortes* (rag-cutter).—Am 12 years and six months old; have worked here a year. Our hours are from half-past 7 a.m. to a quarter to 6 p.m., with half an hour for dinner; eat that here; never worked longer than what I told you.

[Reads well, and knows where Dover is and France.]

19. Two other rag-cutting girls gave me similar information; one was aged 10 years and

* Mr. Hepburn, "the only time for two years; now given up altogether."

three months, and had been only a few days at work; the other was 11 years and six months. They said they cut their fingers now and then, but never so badly as to have to leave their work for the day and go home. Each could read easy words.

20. *Charles Phillips* (machine room).—Am 10 years and 10 months old; have been here six months; left for a year before that, and stopped at home doing school nothing. I and my cousin work together in this room; he is rather younger than me. We are on for 12 hours: six hours down at the cutter, and six upstairs looking after wet marks; that is up on the middle stage of the drying cylinders; it is all hot, but that is precious hot. What I do there is to keep a look-out, and when I see a wet mark in the paper going round, I holla; then the man comes and makes a notch, so that that piece may be torn away. I like day turn much better than night turn; it is so much hotter in the night. We have no regular time for our meal, but generally have it when the work is about half over; we take it just then in the room. I don't know how long I take; I have quite time enough to eat it. I don't ever eat much there, for I have no appetite, but when I get home I always eat very hearty.

Until a week or two ago we used to have to work 18 hours on the Saturday of the week when we were on day turn (from 6 a.m. to 12 p.m.), and came again from 12 on Sunday night to 6 a.m. on Monday. I used to get very tired at the end of those 18 hours, but that is given up now.

I could do sums and geography once, but have forgotten a good deal of my schooling now.

[This boy read well, and gave me very intelligent answers; he seemed strong and healthy.]

21. *Charles Thompson* (glazing room).—Am 11 years and six months old; have been here three years; began by putting sheets in; now put copper plates in; that is harder work, for they are heavier, but neither is hard. Work now from 7 a.m. to 6 p.m.; last year used to go on till half-past 7 p.m. always; had half an hour for tea then as well as the dinner half hour.

[Reads well, and answered several Bible questions correctly.]

22. *Samuel Turner* (glazing room).—Am 10 years and four months old; have been here a year; I take off the sheet from the plate. Daniel was in the lions' den; don't know any more about him; don't know anything that Elijah or Elisha did; don't know what counties are next to Kent, nor any towns in Kent. A large town on the sea coast is Waltham Abbey; wasn't born there; have never been there. Schoolmaster came from there: that's how I know it.

[Reads a little.]

23. *Charles Austin* (glazing room).—Am nine years and two months old; have been here a year and two months; take off from copper plate. Went to National school before I came to work; go to Sunday school now. There are three Gospels; their names are Father, Son, and Holy Ghost. Amen.

[When I helped him with the name Matthew he gave me Luke and John; but of the original answer I could get no explanation from him. I suppose that as I did not correct him as to the number in the first instance, his learning, which connected that number with the Trinity, misled him. He could not read, but knew most of his letters. He did not seem naturally dull.—H.W.L.]

24. I examined several other boys, whose ages were from 10 to 13 years; all knew their letters, but only one could read words of two syllables without a mistake, that one also told me where France and Italy were, but few of the rest knew even what county of England St. Mary Cray was in.

25. All whom I examined, both boys and girls, with one exception, said that they attended Sunday school, but from many of them I could get very little information beyond the book and chapter they had read on the last time of their attendance. Some, however, were very nervous.

Mr. H. Hall, South Darenth.

217 persons are employed here; 130 are females; 5 boys and 14 girls are under 13; 11 boys and 33 girls between 13 and 18; none under 11 years old.

The following account was derived chiefly from Mr. Hall himself, and read over by me to him on my second visit.

26. Those employed at the rag engines work in 12-hour turns night and day. Only four lads are thus employed; their respective ages are 15, 16, 17, and 18. The change at the end of each week is effected by those on the day turn working from 8 a.m. to 12 p.m. on the Saturday, and from 12 p.m. to 8 a.m on the following Monday. Mr. Hall was quite convinced that the 24-hours turn is a bad thing for the men, and stated that the older ones among them now preferred the 12-hours day and night turn. The hours in the machine room are 15 a day, 5 a.m. to 9 p.m. The system pursued with the boys at the cutting machine is to have all in attendance at the mill, but at work either every alternate hour, or for two out of every three hours in the 16 of which their day consists. In the hours at which they are not working they take their meals and play, and are taught by some of the men reading and writing. Some of the copy-books shown me contained very creditable specimens of writing.

27. The usual holidays are Christmas day and the next day, and Whit Monday and Tuesday; Good Friday is not observed as a holiday.

28. Only four females were employed in connexion with machinery; these were feeding the rag dusting machine; three adults and a girl of 17. The cog wheels which set the rag engines in motion are all thoroughly boxed in. Partitions descend half way down from the roof of the machine room on each side of the drying cylinders, so as to form a kind of shaft over them; at the top of this a fan constantly at work gets rid of much of the heated air through a hopper.

29. Mr. Hall told me that the number of children in his employ was at the present time larger than it had been before; this was owing to the opening of a new mill at Dartford, which had taken off some of his older hands. He hoped that these would remain in the neighbourhood as they grew up, and so render it unnecessary for him to take so many young ones to teach their work. They nearly all lived in the village in which the mill was, or in the next one.

30. The rag cutters usually have their own knives, purchasing them of their employers for 1*s.* 6*d.*, and paying by deductions of 3*d.* weekly from their wages. The length of time for which they last

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varies very much, depending on the number of rags cut and on the way of sharpening them. Steam pipes are laid round the rag room, so that the chill is taken off the rags in winter, and fingers are not so often cut. A steam cupboard and hot distilled water are available in the yard for food to be warmed and for tea. Separate privies are provided for either sex. The average earnings of females are 7*s.* 6*d.* or 8*s.* a week; from the wage account of the last week it appeared that one girl of 18 earned 11*s.* 3*d.*, a second aged 15, 6*s.* 4*d.*, while a third aged 19, who had not been absent at all, 4*s.* 10*d.* So one aged 13 years and 6 months earned 7*s.* 6*d.*, another, 11 years and 4 months, 6*s.*, and a third, 11 years and 8 months old, 4*s.* 1½*d.*

31. *W. Jones*, one of the boys aged 13, told me that in the two years during which he had worked at Mr. Hall's he had worked twice all night, and once till 10 p.m. Those were the only occasions he could recollect of being longer than the usual time, from 5 a.m. to 9 p.m. Work ceased on Saturday at 4 p.m. He had 20 minutes for each of three meals in the 16 hours, and was off work for three hours besides; for an hour and a half of that every other day he would be employed in cleaning up. He often played during the rest of the time, and had not written in his copy-book for a fortnight. (Read and wrote very fairly.)

32. *John Smith* (machine man).—I have always been used to the 16 hour shift; it never harmed me; eight hours off in the 24 has always been enough. That son of mine is 16; he began to work in a paper mill at nine years old; that was in Devonshire. He has always been in the machine room and worked the 16 hours there just as I did, for there was no system like that here for the boys having an hour on and an hour off. I never knew of that anywhere else.

[The lad referred to was a singularly well-grown handsome young fellow, standing 5 ft. 9¼ in his shoes, and weighing 10 st. 5 in a light mill dress.]

33. *Mary Ann Danes*, a girl aged 11 years and 8 months, who could not read, though she went to Sunday school, stated that she had been at work at Mr. Hall's as a rag cutter for about six months, and that her earnings in the last week were 4*s.* 2*d.* She had no father; her mother and two sisters, one just 10, also worked there, and two younger ones were still at home. Mr. Hall, jun., informed me that the family would earn frequently 24*s.* or 25*s.* a week; in the last week they earned 27*s.*

34. Two sisters, named *Mitchell*, aged 16½ and 14 years, very healthy looking girls, who had been cutting rags for a month, said that after the first day they quite got over all uncomfortable feeling of dust in their throat. They had been in service before they came to the mill, and much preferred rag cutting;—"Yes, sir, that's it, because we get our evenings to ourselves and all our Sundays out."

35. *Mrs. Oakley* (rag cutter).—Some want new knives before they have paid for the old ones, in less than six weeks; it depends on how they use the rubber for sharpening, and on how much work they do. I used to make mine last three or four of theirs, and some I have had have lasted me for a year. I and my two daughters earned 27*s.* 3*d.* last week between us; the youngest of them is 13, she has been here two years; she earned 9*s.* 9*d.* last week. The other is nearly 17.

36. *Mrs. Jones* (rag cutter).—I and my two boys work here; they are in the machine house. We earned 30*s.* 11*d.* last week. I made 10*s.* 6*d.* of that. I am a widow and had to keep them both five years ago. I used then to have 1*s.* a week from the parish, but the eldest then came to work and had 5*s.* 6*d.* a week, and I have had nothing from the parish since. He earned 13*s.* last week, and the other 7*s.* 5*d.*

37. *One of the men* told me that the work of the boys at the cutting machine was much lighter now that they had upright benches to catch the paper, and only to keep them even, than when they used to have to take the sheets from the felt and lay them on the table.

38. *Emma Johnson.*—Am 11 years and 8 months old. Have been here seven months. Don't know in what county Maidstone is. Don't know who governs England; not whether it is a King or Queen. (Reads fairly.)

[39. Nearly all the boys and girls could read; some well. Several could not tell me the name of the Queen. Most knew something of elementary Bible history. Very few could answer easy questions in geography. —H.W.L.]

Mr. T. H. Saunders, Dartford.

391 persons are employed in two mills; 3 boys and 4 girls under 13; 17 boys and 46 girls above 13 and under 18; 91 men and 230 women.

40. *Mr. Melbourne* (foreman).—We make writing paper and the best kinds of printing paper also. Most of the former is sized, and for that purpose is reeled off in the first instance and taken to another part of the building, where it is passed through a vat of size, and thence over a series of drums in a drying chamber to the cutting machine at the further end of the room. The intermediate reeling-off is a necessity imposed on us by the peculiar nature of our premises.

Our young lads all work at the cutting machine; they lay the sheets as they come from the knife. Two boys sitting side by side can lay three sheets; so that each of the three boys attached to our machines has to work only for two hours in every three. When we are on thin sheets, and the machines work faster, we have an extra boy.

These lads work in alternate shifts of 12 hours; none here under 18 ever work a 24-hour journey; That is certainly too much for their physical condition at that age; but I think that it does no harm at all to adults.

At one machine we have three boys to lay, and two girls, who stand behind them, to carry off the sheets from time to time. In this case there is no sizing. The girls leave off at 12 at night instead of 6 p.m. as the boys do, but both work day and night shifts of 12 hours. Two half hours are allowed for meals out of the 12.

The time consumed by necessary stoppages varies so much in different mills, and in the same mill on different classes of work, that it is impossible to give any average. With some papers felts are washed every week, with others every other day. We often don't change sorts for 48 hours. The deckles* can be shifted half an inch or so without stopping at all.

The hours usual for our rag-cutters are from half-past 8 to 6 or 7; but I have allowed some 10 or 12 women to stay later and cut ships' canvas by gas-light. They are chiefly widows who are glad to earn as much as they possibly can.

The females in the glazing room have nothing to do with the machine; they do not even carry the wads, for it is much too heavy work for them; stout lads do that.

The hours there and in the paper-sorting room are

* Moveable sides placed on the wire, over which the stream of pulp passes, to regulate the width of the paper.—H.W.L.

generally from 6 a.m. to 6 or 7 p.m., and on Saturday they leave at 4 p.m. Just now we are rather slack. They not unfrequently take half a day or a whole day for a holiday. I should say there is no difference in their hours of work, taking the year round one will have worked as much overtime as another. The information given you by (the next three witnesses) is probably correct.

All, both girls and boys, are hired and paid by the principal and not by the workpeople. Some of the girls have 2*d.* an hour; some 1½*d.* They begin as learners with 1*d.*

Some of the boys on the day turn go to a ragged school three times a week for an hour. The school is supported chiefly by Mr. Saunders. Several here have been taught there to read and write, and whatever else they know.

[One boy, aged 15, could not read.]

41. *Mr. Saunders*, on my reading the above to him, added that if any picking was needed at the rag engines, women were employed at his mills to do it, but, if the rags were properly sorted and cleaned in he first instance, that was unnecessary. He preferred adult women able to earn 12*s.* and 15*s.* a week as rag cutters, to children who could not earn more than 3*s.* or 4*s.*, spoiling the work and cutting themselves.

42. *Anne* (?) *Millist.* — Am 12; have been two years here. Am working now from 8.30 a.m. to 5 p.m. Our usual hours are from 6 a.m. to 7 p.m. I have sometimes begun at 5 a.m. For the first fortnight that I was here I worked every night from 5 a.m. to 9 p.m. I have never since that worked so long for so many nights; that was in the ruling room. I have often worked from 6 a.m. to 8 p.m. in this room; have done so for a month at a time. Have twice worked till 12 at night, never later. I can read. Don't know much about the others; know two cannot.

43. *Emma* (?) *Herbert.* Am 15 come next Christmas. Have worked here a year. Have worked once all night, and once till 12; but mostly from 6 a.m. to 7 p.m.

[44. Another girl of 17 in the paper-sorting room, whose name I omitted to ask, told me that she had worked from 6 a.m. to 8 p.m. for a week and more at a time several times a year in the three years during which she had been there; what she liked was work from 6 a.m. to 6 p.m., "that is quite long "enough for me."]

Dartford Creek Paper Works.

137 persons are employed here; 67 are females; 2 boys are 12 years old; 8 boys and 2 girls between 13 and 18.

These works are newly built and well arranged in respect of space, loftiness, and ventilation; the rag-cutting room in particular is very light, and fitted with ventilating louvres along the whole length of the roof.

45. *Mr. W. Reading* (manager).—We manufacture news and printing paper, not writing paper. Our 10 lads under 18 with two others over that age are employed at the cutting machine, which is attached to the paper-making machine. They work in two sets, taking night and day turns in alternate weeks; each turn consists of 12 hours, but we have six boys on in a set, though at present only four work at a time, so that they each work in effect two hours in every three. Sometimes, when the sheets are larger, when they are cut into three instead of into four, fewer boys will be required, but we always keep the same number on, and the spare ones can help when they are wanted. I think it necessary to have this system of relief for those boys; for 12 hours constant work would be too long at the age that most of them are, from 12 to 16, even though the work itself is light.

We do not need any one to scrape our strainers, or to pick the stuff in the beating engines, they are required only for fine paper.

Our rag cutters work from 8 a.m. to 6 p.m. in summer; in winter they leave off at 4 p.m., then we have more hands; now many prefer field work; they always have an hour for dinner. They have generally very good health. One who died recently was more than 60 years of age, and had never been absent for illness in 27 years. They do cut their fingers from time to time, but I have never had any case of mortification nor any serious wound from that cause where I have been.

The boys now and then have the tips of their fingers taken off by the horizontal cutter; that arises always from great carelessness or even from mere play.

The plan of day and night turns for men and boys has been substituted throughout these works for that of the 24 hours' journey. I have found all of them much more fit for work since that change has been effected. Before it, when we worked for the 24 hours, I used continually to find them all asleep at their work when I came in at night. No accidents ever happened in consequence, but there was much loss and waste.

46. *Jane Horsman.*—Am 14; work from 8 a.m. to 6 p.m.; began to work at paper mill three years ago, was 11 then; cut rags there as I do here; worked the same hours as now; there were seven or eight there quite as young as I was, some were younger.

[This girl was reading a letter to her mother when I spoke to her, it being the dinner hour; her finger was tied up, but her mother said that she had never cut it before, and it was nothing serious.]

[47. Of the six lads whom I saw, three could read, and the other three knew little more t han their letters.—H.W.L.

Mr. G. F. Busbridge, East Malling.

149 persons are employed here; 87 are females; three boys and one girl are under 13; five boys and 19 girls between 13 and 18, the youngest is 9 years and 9 months old. After going over these mills with Mr. Busbridge, I drew up and submitted to him a statement founded on the information there given to me, which he returned corrected in the following form :—

48. There are no children employed at the rag engines during the night; there are two boys, one aged 9 years and 9 months, and another 13 years and 3 months, who pick the pulp, but they never work longer than from 7 a.m. to 6 p.m., and that neither continuously nor laboriously. Where children work of an evening, it depends entirely on the man under whom they work whether they have, more or less, of rest and comfort. The proprietor of this mill prefers having only male adults then.

In the machine room there are six boys, the youngest of whom is 12 years and 10 months old; their ordinary hours are from 6 a.m. to 6 p.m., they have occasionally to come at 4 a.m., but taking the whole year round they will not average more than the 72 hours a week. The machines are only worked by day, and not night and day continuously, so that it is very difficult to give a fair statement of the extent of their overtime; for although three boys are always in daily attendance at each mill in case that they might be wanted, it frequently happens that only one is actually at his place; the others may be reading, or

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cleaning up, or fetching the man's meals, or having nothing to do. The fact is, that in the machine and engine rooms of a paper mill the work is in no way continuous for man or boy, though they are paid for all the time during which they attend. For example, the boy Albert Smallwood appears from the wage book to have been paid since the beginning of this year for five weeks of 80 hours a week, one of 85, three of 90, two of 92, and one of 100; in others only 70, 60, or 50. Now it is very probable that he has been at the mill, when business has been pressing, during 15 or 16 hours in the day, and paid for that time accordingly, but that does not represent the hours he was at work, for half the time, probably, he was not working at all; and when the machine is stopped, as it frequently is for repairs of one kind or another, and also to mend the felts or wires, or merely for changing sorts or sizes, he may help the man by fetching or carrying something, but otherwise would be resting.

The last-mentioned cause of stoppages is one which affects mills that vary very much in the kinds of paper produced, and execute small orders or limited quantities of peculiar or particular paper much more than those who make nothing but news or printing paper for large orders or for a constant supply, and may work 48 hours and more without one change.

One cause, which to some extent necessitates working in the machine room beyond the usual hours, is that the pulp must be worked out in the day which our rag engines produce in the 24 hours, or else the supply would accumulate and be in excess; and the time for working the stuff produced will, of course, depend on the thinness and the making width of the paper on which the machines happen to be engaged; the engines for producing pulp being inadequate to supply quantities for keeping the machines continuously at work for 24 consecutive hours.

With regard to small orders, and especially for coloured papers, no doubt something may be done by getting early information as to what is likely to be in demand, but that is very difficult to obtain, and making to stock instead of waiting for orders is a kind of speculation that does not always answer.

The girls in the glazing room work usually from 8 a.m. to 6 p.m., but for about 10 weeks in the year they come at 7 a.m. and stay till 8 p.m. on five days of the week, that occurs sometimes for two weeks in succession; they leave at noon on Saturdays. They will have out of those 13 hours two hours for their meals. The little girl of 12 who helps never works longer than from 8.30 a.m. to 5.30 p.m., and has her dinner hour out of that time.

It is in this room that most of the girls under 18 are employed; three of them are folding envelopes, and eight are at the rollers, but there are no children so engaged, and two older girls are preferred instead of three young ones; a wad is placed between the two, and one takes the plates off and refurnishes it, while the second removes the sheet of paper, so that the third girl who used to lift the plate off is dispensed with.

[49. Three boys whom I tried here could read fairly; one could not tell me the number of the Apostles, or of the Gospels, or the names of any until helped.]

Messrs. Hollingworth and Co., Turkey Mill, Maidstone.

Total number employed, 375; under 13 years old, 8 boys; above 13 and under 18, 16 boys, 26 girls; over 18, 62 men, 263 women.

The following statement, embodying the result of my interviews with the Messrs. Hollingworth and their foreman, was read over by me to them, and approved of by them.

50. Superfine paper for writing, drawing, and account books is made here.

There are about a dozen different branches of work in the mill, and the hours of work differ in all. In the engine room, where there are six men and four lads, they work in shifts of 24 hours on and off, half of them in each set; there must be one man and one boy awake through the whole night, but they are not all five needed at the same time, so they take turns of watching through the night.

In the machine room the usual hours are from 5 a.m. to 8 p.m., but as all the boys are not always wanted to be present during the whole day, the spare boys are sent home at breakfast time, about 8 a.m., and do not come on again till 5 or 6 p.m., when they relieve the younger ones who have been at work since 5 a.m. These and the older lads, who are not relieved in this way, occasionally work till 12 p.m., and sometimes all night; perhaps on an average once a week till 12, and once in three weeks or a month all night.

In the glazing room, where all employed are females, work goes on from 7 a.m. to 9 p.m. for nine months out of the 12. The carriers, *i.e.*, those girls who have to take the wads to and from the glazing cylinders, are frequently relieved at about 5 or 6 p.m. by others from the rag house, where the hours are from 8 a.m. to 5 p.m.

At three "hot rolls" the work is continued through the night for two nights in the week on an average, the work being so arranged and distributed as to prevent such night work being repeated more than two or three times in any one week. Each "hot roll" has four females attached to it, three working at a time and one to relieve; the time and order of relief they arrange among themselves, varying from day to day at their own pleasure. There is also a supernumerary woman, making in all 13 attached to these rolls. Two must always be working at each roll, one to feed and one to take out; but the third, "the jogger," who carries off the sheets, can do so for all three rolls, and thereby enable the other two "joggers" to take some rest while working in the night. During that time also the steam engine is shut down for 1½ or 2 hours.

In the sizing room also, where all are females, the hours are from 5 a.m. to 5 p.m. These have to lay the sheets on the endless felt for the purpose of being carried through the sizing trough, or to remove the sheets from the felt, and part them after sizing.

All driving tackle and cog wheels are fended; a wooden beam also is placed close in front of the glazing rollers so as to allow of the wad being passed underneath, but preventing the hand from going with it. The latter plan was adoped in consequence of a woman having had her finger torn off through slipping in between the rollers. At the rollers for single sheets also a small donkey roller was used for the same purpose.

The Messrs. Hollingworth both stated that, if they could do as they liked, they would never have any under 14 years old employed on the place, but by the rules of the men they were allowed only one apprentice to each machine, or three in all, as theirs was a "carded"* mill. Consequently they were compelled to send away all their boys except those three, as soon as they were 15 years old, or in other words, as soon as they began to be useful. They would much prefer to keep them on, instead of having a constant succession of fresh hands, whom in effect they were training for journeymen's wages in the uncarded mills, and in whom they could not take the interest they would like to take, because that the short term of their employment, and the frequent changes consequent thereon, made it impossible.

* Where all the males above 15, except apprentices, have a "card," or certificate, required by the trade union, of having served an apprenticeship to a "legal" master; as opposed to an uncarded mill or "scow banker."

51. *Thos. Cornish.*—Am 14; have been here a year; have often worked 24 hours all together; have worked 36 hours right off; have done so about six times; have four hours' rest during the night when I have worked all night through; two hours at a time. work at the cutter, catching the sheets. There are four of us to catch when three sheets are cut; that's how we manage to lie down and sleep, there's one extra one.

[Reads well.]

52. *W. Weedon* (at cutting machine).—Am 11; was 10 when I came; have worked all hours, often 24; don't know how often. Was beginning to learn geography at school when I left to come here, but recollect nothing of it now.

[Reads fairly.]

53. *Thomas Box.*—Am 14; have been here near three years; sit up at back of machine and watch if the paper breaks; can't say exactly when I come to work and leave; come sometimes at 6 a.m., sometimes at 4 a.m., and leave sometimes at 8 p.m., and sometimes at 10 p.m., and sometimes go on all night; have worked several times all night and next day too, 36 hours; am very sleepy and tired when I work all night; get about two hours' sleep at midnight, and again sometimes.

[Reads fairly.]

Mr. W. Simpson, Stocked Lane, Tovil, Maidstone.

76 persons are employed here, only 8 are females, these are all adults; of the males 4 are under 13 the youngest being 11 years and 10 months; 14 are between 13 and 18.

54. *Mr. J. A. Simpson.*—What we make here is paper for printing. We use straw for this purpose; that is cut by men with a chaff-cutting machine, so that we have no women for rag cutting.

Our men work 24-hour shifts, from 3 a.m. on Monday to 8 or 9 p.m. on Saturday; the boys work only 12 hours at a time, for we don't think it right that boys should work so long as 24 hours, so those who work by day in one week are on the night turn in the next. One of the older apprentices, however, might occasionally have to take the long shifts of 24 hours if the man happened to be absent.

Boys come to work at about 12 years of age; if they are sharp we apprentice them at 14 to learn the whole trade; they stay in the machine room till they are about 17, then go for two or three years to the finishing room, and for the last year or so to the rag engine.

I should say that the stoppages from one cause or another amount to four or five hours in the 24, taking one day with another. Every five weeks or so new felts and wires have to be put in, that involves stopping for 16 hours or more. The lads have to get their meals as they work, and are allowed to manage the time with the relay boys as they like.

We have a shaft over the drying cylinders to carry off the great heat, but no fan in the roof; for when the room is high the effect of a fan is to condense the steam, and so to make the room and everything in it clammy and miserable.

In the last 14 years we have had only five accidents; none resulted in death; the most recent was four years ago, when a man who was oiling was caught by his slop by a shaft overhead; no bones were broken, but it was a very near thing; if a lad had not been there, as our rule is, to keep a look-out, and he had not got the machine stopped at once, he would have been killed; as it was the front of his body was completely flayed; he was away from work for three weeks.

No machine in any paper mill is driven at a speed at all like that of machines in cotton mills; 140 revolutions a minute is the fastest we ever work; that is the speed of the beating engines. The very outside rate for the paper to pass over the cylinders is 80 feet per minute; few mills run faster, the greater number slower than that.

I am quite sure that the work is better done if the place of work is made reasonably comfortable. Skilled hands will always choose such a place; we have known of men who were offered 2*s.* a week more than we give, but preferred to stay with us on that account. One said he knew he should spend 3*s.* a week in doctor's stuff if he went to this place from which the offer came, and so should be a loser after all. Our men are very healthy; some have been 14 years with us and have not lost two days on account of illness.

Christmas Day and Good Friday are always holidays with us, and either Easter or Whit Monday, sometimes both.

I believe that all our four boys who are under 13 can read and write. I used myself to teach in the Sunday school here, and know something about the education of the children. I know Lancashire well, and from my knowledge of working children there and here, I should say, that though the latter are sharper and quicker, there is more of what may be called book learning among those in this neighbourhood.

[One boy, aged 12, could read only monosyllables.]

Messrs. H. Allnutt & Son, Tovil Mill and Ivy Mill.

121 persons are employed here; 77 are females; four boys are under 13; three boys and seven girls between 13 and 18; the youngest are twin brothers, 10 years and 10 months old.

55. *Mr. Allnutt, jun.*—We only make coloured and fancy papers (not tissue) for covers of publications, albums, cheques, and the like. There is nothing in any way deleterious in any of the colouring matter; nearly all is vegetable.

The females here work from half-past 7 or 8 a.m. till 5 or 6 p.m.; the males from about 6 a.m. to 6 p.m. Our apprentices never assist the "engineers;" those do work 24 hours through, but they are adults. We have no need to work at our paper-making machine longer than from 6 a.m. to 6 p.m., for in that time we can work up all that our beating engines can do in the 24 hours. Our machine does not work very fast; some kinds of paper may be made three times as fast as ours.

If we had twice as many beating engines as we have, and wished to keep them all going without having any more paper-making machines, we should have to work the latter night and day also. Night work at making paper is a mere question of the proportion of beating engines to paper-making machines. My father has always had a strong dislike to night work; the men get sleepy and careless; and, as a consequence, the loss from damage to material or to gear, which probably would not have happened in day time, is considerable.

Our cutting machine and even our drying cylinders are separate from the machine where the paper is made. We can always cut at this machine in 12 or at most 13 hours as much as all our machines make in the day. The cylinders ought not to be away from the other part of the machine, but we were forced to make the best of the premises which we had.

Some of our women have worked for many years for us. I am not aware that the dust is injurious. There is often a scarcity of hands; some leave us after a short time. I have heard complaints of the flue where rags of the finer sort are cut as being worse than that of the inferior kind which we use.

56. *Mrs. Hoare.*—I have been a rag cutter for two or three and twenty years. I think my health has suffered: it is the dust that is bad; it hurts the chest;

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you have to take medicine for it. There is my daughter, too ; it affects her in the same way ; I can't exactly say in what way, more than I have.

57. *Mrs.* —— (daughter of last witness).—I have cut rags for about 12 years ; it is not good for me ; it hurts the chest ; you don't notice it after a time, and after a week's holiday you get much better. I was away for several days a fortnight ago, and got much better, but when you come back again you feel it very much at first ; it was because of my chest that I was away. I have had to be absent several times on that account ; I am married, and have a family.

58. *Mrs. Abnet.*—The dust of rag cutting never hurts me, and I have been at it 30 years ; it does hurt some constitutions, and agrees with others. I have found that foreign rags always make me sneeze very much ; they give one quite a cold ; that goes off if you stop at home for a day or two. The younger women always suffer a good deal when they first come to the work. Though I have not been hurt myself, I think that rag cutters and sorters are less healthy than the women hereabouts who work at home or in the fields.

59. *Mrs.* ——.—I am now sorting paper ; that is much better than sorting rags ; I did that for some years. The dust used to get on my chest ; I took opening medicine for it once a fortnight ; that is what most do ; I don't know that I am any the worse for it now.

Messrs. Macey and Elves, Medway Mill, Maidstone.

60. *Mr. Macey.*—47 persons are employed here ; 18 men, 16 women, 13 lads of ages from 11 to 16. We make brown paper and other wrapping paper ; coarse rags, rope, bagging, and the like are cut up for that. The boys at the dusting and sorting have 10 hours of work, and an hour and a half for meals, making 11½ together; at the machine and the rag engines they work day and night in 12-hour turns from 6 to 6, with 18 hours on Saturday and 6 on Monday to make the change of turn. It is possible that a lad might go on for 24 hours, if his mate who ought to succeed him happened to be ill, but as a matter of fact that does not happen once a year. These all get their meals at their work. I do not like the system of 24 hours on and 24 off. I am sure that whatever it may be for the man, it is not good for the employer. I always find that when a man takes his mate's turn after his own, as may occasionally happen, the second 12 hours is not worth much to us. We pay the boys 4*s.* 6*d.* a week when they first come, and raise it by degrees to 6*s.* and 7*s.* I fear that several cannot read, and have had very little education. It is in every case, I believe, owing to the neglect, not the inability, of their parents to send them to school.

[61. Out of six lads four, aged respectively 11, 12, 16, and 18, could not read ; the one aged 16 had been to a day school for a year, the other three only for a month or two ; they never went to evening school.]

Messrs. W. and R. Balston, Maidstone.

382 persons are employed here : 264 are females; six boys are under 13 ; eight boys and 23 girls between 13 and 18. The youngest boy is 8 years and 11 months, the two next youngest 9 years 5 months and 9 years 7 months old.

This mill (which is of recent construction, an older building having been destroyed by fire,) is, in respect of its sanitary arrangement, worthy of all commendation. The rooms are spacious, clean, and well ventilated, and many contrivances are adopted to lessen the labour and promote the well-being of the workpeople.

62. *Mr. W. Balston.*—All our paper is made by hand ; what we make is the best writing paper and drawing paper ; the hand-made paper in those kinds are acknowledged to be very superior to any that is made by machine, and fetches a far higher price. The same process is in operation with us for paper making as has been used for the last 100 years ; the large stone vat, holding the fibre or stuff, into which the mould or frame is dipped afresh for each fresh sheet of paper, remains with all its accessories but little altered so far as we are concerned.

We do, however, use steam power, chiefly for the "engines" which grind and beat the rag into pulp, but also for the presses in the vat room used to press the sheets, after they have been placed between the felting or blankets when turned out of the mould, and for the glazing machines which give a surface to the paper after it has been thoroughly dried.

About one-half of the females whom we employ are cutting or sorting the rags ; we have, however, a considerable number who are engaged either in sorting the paper after it is made, and picking defects out of the sheets, or in the glazing room, where some place the sheets between metal plates so as to form the wads, while others push the wads under the cylinder of the machine.

We have no females employed here under 14 years of age, and prefer to have none till they are 16 or 17 ; if they are younger than about 14 they cannot be trusted ; they must, however, be young when they begin, for whether it be cutting and sorting rags, or picking and sorting paper, one who has learned young will do in the same time much more than another who began late in life. This early training is particularly needful for one branch of sorting paper, where they have to "part" or separate the very thin foreign or bank post paper sheet by sheet, as they are taken from the felts before being pressed.

The six boys, who are the only children under 13, are in the vat room ; they are brought by their fathers to help them when we are making thin paper ; their particular business is to "draw the slice," (a thin flat piece of wood covered with felt, and used to keep the bottom edge of the upper sheet from sticking to the sheet below, until the top and sides have been laid square). Sometimes we have none of them ; at others more than we have now ; their number depends on the number of vats at which thin paper is being made ; for a boy is absolutely necessary for the layer at those vats. They are glad enough to come, for they have 1*d.* an hour. We pay the boys ourselves ; that indeed is the case throughout ; we hire and pay all who work for us ourselves.

The eight lads between 13 and 18 are all apprentices. The number is limited by the rules of the union among the men. We may have one apprentice to each vat and one extra one for so many vats. The vats' crew consists of three persons. We have 14 vats and 15 or 16 apprentices. They are not bound by regular indenture. We have had only one formal binding in 40 years. The agreement is a verbal one. They come at 14 for seven years. They learn different parts of the work as they advance, beginning with helping the "engineers" to fill the rags into the troughs and watching the stuff as it is being beaten up. Then they go to "dry work," which is hanging up and pulling down the sheets from the hair lines on which they dry.

The hours of work are different for different branches of the work. The "engineer" and apprentice with him work a journey, 24 hours at a time, from 7 o'clock one morning till 7 the next. In the night-

time we require that they should not both be asleep at once; the man ought always to be awake; but one sleeps while the other watches. Ordinarily the lad will have to feed each of the two pair of troughs with rags about once in every three or four hours, so that he would have to feed one every hour. It is necessary that this work should go on day and night, for otherwise, when the vatters come in the morning, and they come very early, at 5 a.m., they would have nothing to go on with. They consume in the day all the pulp that the engines can supply working day and night.

We have only one steam engine for all our motive power, so that stoppages of a length varying from ten minutes to one hour frequently occur in several parts of our works at once. The engine is almost always shut down at noon for the dinner half hour, and again at 7 p.m., unless they are going on in the glazing room until 8 or 9 p.m. At 4 a.m. also it is shut down for about three-quarters of an hour.

The men, who come at 5 a.m. often, when they are on the larger kinds of paper, get all their work over by 1 p.m., for that is heavier work. On Saturday they generally get away by about 10 a.m. Now and then a vat's crew will not come for a day; they will then work longer than usual to make up for the loss of that day, but scarcely ever after 6 p.m. Sometimes also, when a different coloured paper has to be made and the chest must therefore be worked out first, they may do so.

The work of the rag cutters is limited by the length of the day, for we will not allow gas or any kind of artificial light to be used where they are for fear of fire. The glazing and paper sorting rooms are the only places where they have gas.

Many of the women are married. These often get substitutes if they want to stay away for a morning or a day, or to leave early. It is in the glazing room more especially that this takes place. A neighbour, or perhaps a girl from the rag room upstairs after her work is over, is glad to come down and earn 2*d.* an hour there.

Since your first visit to our works we have made a regulation that none of these girls under 18 shall work more than 12 hours a day here, whether at the same or at different kinds of work.

Accidents to the workpeople from the machinery are very rare. I have never known any to arise to the girls at the glazing machine. Only one roller moves, and the "wad" of paper and plates is put under it without being taken off the little tray or carriage on which it is wheeled along the table up to the machine. Five or six years ago, a man passing where he had no business to be, was caught by some part of his apron as he stepped across a shaft, and was killed. Most of them take their meals on the premises.

We have always endeavoured to encourage a good moral tone among our hands, and I think we have met with success. All promise when we engage them to attend some place of worship on Sunday; and with regard to the women we inquire from time to time whether they do so. All the younger ones have, I believe, been to school before they come. The apprentices often attend a mechanics' institution in the evening. The good of night schools for young women is, perhaps, doubtful, at all events in a place like Maidstone. We have hardly one man who drinks in our employment.

The vatting room is necessarily warm. I suppose on an ordinary day it is at summer heat; on hot days of course it will be higher; but we do not find those who work there less healthy than the rest.

I have sometimes thought that the working 24 hours at a time might be injurious to the engineer and his lad, and have proposed 12 or 18; but they all like to have the whole of the next day to do as they please, and certainly I cannot say that their health suffers. There are, however, only two lads who work in that way in all our place.

I must say that I think the half-time system, children working by relays for half the day, and going to school in the other half, is applicable, and would work well for slice boys. If, as is generally the case, they do not go to school when they have once begun to come here, after an absence for two or three years they do not like to go at all, and so forget what they have learned before.

Good wages are earned with us. Apprentices have 6*s.* a week from the first, and a lad of 18 or 19 has 15*s.* or 16*s.*

63. —— *Sharp* (foreman.)—A day for day workers is considered to be from half-past 7 a.m. to 5 p.m. for women, and from 6 a.m. to 3 p.m. for finishers and dry workers. All others are paid by the piece, so they work between the hours of 5 a.m. and 6 p.m. much as they please. Sometimes they may stay as late as 9 p.m., but not very often. There are three apprentices under 18, who are layers in the vat room. If the crew to which an apprentice belonged worked till 9 p.m., the apprentice would also; that happened once three weeks ago; it was because the stuff was not worked out. I don't recollect it ever happening so before. After our fire we had for some time to work in day and night shifts; that was over two years ago, and was the only time we ever did so.

The "raggers'" hours are from 8 a.m. to 6 p.m.; they are women. In the glazing room they are working now from 6 a.m., some may go on till 9 p.m.

64. *Clara Hyland.*—Am 15. Have been here about six months. Have worked many times from 6 a.m. to 9 p.m., part upstairs in the sol, and part down here; did so for three nights together a fortnight ago; was tired, but not so very much, nothing near so bad as dress-making; used often to work longer at that. Began that at 13 years old in Maidstone. What I do here is, I sit and take the sheets out of the wad after it comes from the press. Am often resting, as I am now, waiting for a wad to come back.

[65. The forewoman of this room stated that they had three half hours for meals when they worked from 6 a.m. to 9 p.m.; tea being at 5 p.m.]

66. *William Weedon* (slice boy).—Am 11 years old; must have been here 2½ years. Have been at day school only at one time since then, that was when the fire here was. I got to work again in two or three months. Daniel was in the lion's den. Don't know who Joseph's father was, nor how he came into Egypt. Don't know how many brothers he had, nor what they did to him. Can't say how many Gospels there are. (Reads fairly.)

67. *George Benge.*—Shall be 10 next March; have been here a twelvemonth; so was 8 years and 6 months when I came. Am off work for about a day in a month, not more. Am a slice drawer. Came yesterday at 4 a.m., that is father called me at 4, began work at 5 a.m., and went on till 6 p.m.; that is longer than usual. Have not been to school since I came here.

[68. This boy read fairly, but could answer no question correctly, either about the number of the Apostles, or of the Gospels, and their names, or from the multiplication table. His father was receiving 36*s.* a week, with 3*s.* 6*d.* extra as beer money, &c. as a "layer."

Another boy, John Bailey, who was nearly 13, read well, and answered several questions intelligently and accurately; he went to evening school.]

Mr. John Burcham Green, Hayle Mill, Maidstone.

70 persons are employed here; 41 are females; two boys are under 13; four boys and three girls between 13 and 18; none are under 11 years old.

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69. *Mr. J. B. Green.*—We make paper by hand, chiefly bank notes, cheques, and similar kinds. We have four apprentices, two are under 18. This is a "carded" mill, so our number of apprentices is limited; the boys usually have been employed about the mill for some time before they are apprenticed, and practicaily serve from 10 years old to 21.

The young ones come first as slice drawers to help their fathers; they are wanted only when thin paper is made, and are not constantly employed; the "layer" is the member of the vat's crew whom they help, so he has the privilege of bringing his son before the others, if he have one. We have from two to four of each, according to the work we are doing.

There is no formal indenture, it is a mere verbal arrangement, and either master or apprentice may part at any time. In 25 years I have had only two apprentices who have turned out badly. 9*s.* a week is the least they receive, that is what they begin with, that is made up of 1*s.* 4*d.* a day, and 1*s.* for clothes; but they are often put on to 1*s.* 8*d.* a day in a very short time. This one, who is 14½, earned, you see, over 13*s.* last week.

The extreme of work for the vat's crew is from 5 a.m. to 5 p.m., and they are more frequently employed for a shorter time. All their work is over by 10 or 11 a.m. on Saturday. The only part of my works in which I think the hours are too long is the rolling room. There it is a common thing to work from 6 a.m. to 8 p.m., except on Saturdays, when they leave at 11 a.m. There are one or two boys there and six or seven young women from 18 to 25 years of age. The length of hours is caused by our having only one pair of glazing rollers, we ought to have two.

Two girls are employed in the sizing room, one aged 13, the other 15; that is where the long trough and endless felts are; their hours do not average more than 40 in the week, and never exceed 50, but that place is too hot for them; if it does not injure their health directly, it makes them very liable to take cold, unless they are careful. I have had most of the women who work in that room protected by a partition, which separates them from the part where the trough is; but the two I have mentioned must stand in the heated atmosphere, one at each end of the trough, to lay on or take off the sheet. The man who is there can tell you the amount of heat and the reason why it cannot be otherwise. (No. 70.)

I fear that it is the case that in paper mills children are often employed younger than they should be. Their education is, as a consequence, too often very defective, and sometimes wholly neglected. I, myself, wish that the law would step in and make education up to a certain point compulsory on the employers or the parent.

I think it wrong that children should work 12 hours by night. When a mill is working night and day, it would be a good thing, in my opinion, to limit the time to three shifts of eight hours each; but the absolute prohibition of night work would be absolute ruin to many branches of the trade.

70. *The man in the sizing room* stated that the temperature of the room was commonly 90°, and at times 100°; that of the sizing liquid was 120° on the earlier days of the week (before the steam pipe which passes through the trough is coated with a deposit), and sinks to 110° towards the end. Openings had been made in the roof for ventilation; but they had to be closed, because the air which they admitted chilled the size, and thereby caused a coagulation, which, however slight, wholly prevented it from working properly. One of the two girls had been employed for 10 and the other for two months in that room, but neither had been absent from illness attributable to the great heat.

71. —— *Gigger.*—I have gone through the whole thing from being a slice boy and afterwards an apprentice. My two younger brothers, who are here now, begun by being slice boys at 9 or 10 years old; it is too young, so far as schooling goes, no doubt. At most paper mills where they make by hand, such boys would be sometimes employed; they would be on for a fortnight or perhaps a month at a time, and then off for a week or more; for three months in the year, you may say, they are off work; that is in the winter, chiefly, because thin papers are not made so much then.

The vat's crew reckon their week's work to be seven days of eight hours. They often work from 5 a.m. to 5 p.m., but scarcely ever longer, and they leave at about 10 a.m. on Saturday. They have half an hour for breakfast at 8 a.m., and the same time for dinner at 12. In the rolling-room half an hour is allowed for tea when they work till 8 p.m. Occasionally there are night shifts with a fresh crew; we had to have that for some weeks two or three years ago. They would come on at 5 p.m. and leave at 5 a.m., or thereabouts.

When a lad is apprenticed here he begins at the lay stool at once; he does not "couch" (turn off from the mould) until his last year or so. There is no ill-treatment of apprentices or other boys now as there was once in the trade; the present generation is better off in that respect, I believe; they don't get knocked about as they used to be.

The slice boy has short rests from time to time; he goes on for about 20 minutes until a "post" is done; then the crew leave off in order to press; that takes about four minutes. 20 posts are reckoned to the day's work, or five in two hours. These boys are paid 10*d.* a day by Mr. Green, but 8*d.* is more common.

I believe that in some mills the vat's crew do work more than 12 hours on some days in the week, but that is only when they choose to make holiday at the first part, and have to make it up at the end.

72. *H. Gigger.*—Am 13; came here four years ago; was slice boy for two years; was off for about 10 weeks out of the year in that time; went to school in those weeks; used to work at that from 5 a.m. to 5 p.m. mostly; never longer. Then went to wetting out in the size room; that was from 6 a.m. to 5 p.m.; after that to the rolls; am there now; we work from 6 a.m. to 8 p.m.; that is long, but it is all easy work. Have no time for any reading now; know nothing about the names of persons in the Bible, or the countries of the world.

[Reads fairly.]

73. *C. Gigger.*—Have been six years here; am 16; am an apprentice; worked in night shift about three years ago with vat's crew, every night for three weeks. That has never happened since. Don't like night work; can't get your rest so comfortably in the day. Used then to leave work at 5 a.m., and go to bed till dinner time, about 1 p.m. Have had very little schooling.

74. *James Bourne.*—Am 14½ years old; was between 9 and 10 when I came here; am apprenticed now; for the first two years was drawing slice, and throwing felts, and now and then taking off sheets at the rolls; so was very seldom off work. Now I "lay" the sheet, that is, take it off the felt and lay it in the pack; "laying" is back-aching work, if there are two sheets on each felt; when there is only one you don't have to work so fast. Shan't come to "couching" till my last year. I found the hours in the rolling-room, 6 a.m. to 8 p.m., not exactly tiring, but very wearying, for there is no change. I read of an evening, and write in a copy-book sometimes.

[Reads well.]

75. *Thomas Lewis Sells.*—Am 12; have been only a few months here; I draw the slice; sit to do that; have been throwing felts for the last two or three days; have to stand for that; it makes my back ache; have only done it once before. Worked from 5 a.m. to 5 p.m. yesterday; came at 4.30 a.m. this morning, but expect to have done that by about 12. Jacob was a man with a coloured coat.

[This boy did not know all his letters, and could not read the words "love" and "Lord;" he answered several questions about the circumstances and reason of the death of

our Saviour with tolerable correctness, and stated that his sister at home taught him that of an evening sometimes, but that he never went to school.]

76. *Alfred French.*—Am 11 ; have been here since a little before last Good Friday ; am a slice-drawer ; am sometimes off for a day, sometimes for a week ; was once off for three weeks together. Think I have worked rather more than half the time since I have been here. When I first came I used to be here for ever so many mornings at 4 a.m.; once I came at 3 a.m.; often worked on till a little past 5 p.m., but never after 6 p.m. ; our usual time is from 5 a.m. to 5 p.m. We take our meals here.

Have rests about every 20 minutes for three or four minutes ; sometimes have to "squeeze" them, if there are two sheets together between the felts, such as foolscap or copy.

Read the Bible at home of an evening to grandfather.

[Reads well.]

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Messrs. Grosvenor, Chater, & Co., Wooburn.

117 persons are employed here; 52 are females; three boys and five girls are under 13 years of age, only one being under 12; between the ages of 13 and 18 there are 18 males and 10 females.

77. *Mr. Wildes.*—I reside here, and have the management of the paper-mill for the firm. We are very short-handed just now, especially in the rag room, and have therefore more boys than we should have or have had hitherto. That is caused by the existence in this district of other occupations for women which can be carried on at home, those of lace-making and shoe-binding especially. Men and boys are also employed in chair-making.

The usual hours in our rag house are from 8 a.m. to 5 p.m., with an hour for dinner ; the doors, however, are open at 6, and any who choose can begin work then, but the younger ones seldom come before 8 ; none stop after 5.30 p.m. The supply of females is so limited here, that we have not only to employ boys to cut rags, but are glad even to put men to that work. All is piecework, and one will earn 8*s.* or 10*s.* a week, while the next one will not take more than 3*s.* or 4*s.*

The lads at the rag-duster and at the cutters work 24-hour shifts ; they always manage to have some time for rest during the night. At the former he might lie down for two or three hours together ; for the man feeds the duster,* and the boy's business is to collect the rags when they have been dusted, and carry them in a basket to the rag boilers ; that would be done about once every 12 hours, for we boil 15 cwt. at a time. The boiling occupies about eight hours, and the filling and emptying four. We intend to dispense with that carrying off in baskets, by having an endless felt passed under the lower orifice of the duster to catch the rags and take them at once up through the floor into the room above where the boilers are.

Those at the cutters also have similar opportunities, for our cutters are detached, and can cut seven reels at once, so that they might be lying down while three or four reels in succession came off the paper-making machine. We have no definite rule which we enforce as to this, but leave it to the men and boys to arrange among themselves. We usually cut five reels at once, and never into more than three sheets. We reel 2 cwt. on each reel ; that takes about three-quarters of an hour ; what we make is book printing paper. Every cutter has two boys attached to it, and there is always a third, rather older, who attends on the machine man, so that if only one sheet is being cut, the two boys can take turns one with the other, or if two or three sheets, the third boy can relieve either of them ; but they may possibly be all wanted at one moment—to assist, for example, in the case of a breakage,—and therefore must all be on the spot, though, as a matter of fact, they might go on for a week and more without any such occurrence.

Breakages of paper are however very common, and the value of a good machineman may be said to consist chiefly in the art of so regulating the speed at different parts of the machine as to prevent the paper, on the one hand, from becoming so attenuated as to be unable to sustain the pull of the cylinders, and on the other hand, from expanding laterally, and thereby being wrinkled as it passes over them.

I think accidents in paper mills are much less frequent than they used to be. One reason probably is that machinists arrange their wheels and driving gear, and especially the glazing rolls, better now. Here we have no wheels at all on the side of the machine where any one passes, and even on the other side we box all we can. These two large wheels and pulleys must be left so that the man can get at them, for the speed at different parts of the machine depends on the relative proportions of the circumferences of those wheels, and he has to put on or take off a piece of the felt round one in order to alter that proportion. Accidents do happen in doing so ; but I do not recollect any accident here which arose through want of fencing. The most serious we ever had was when three men were very badly scalded, through their own neglect, by the escape of steam from the rag boiler. Two others took place at the rollers ; the fingers of one boy, and the arm of another, were badly squeezed in putting the paper through ; the arm was not broken ; in the other case the top of the forefinger was.

None of our women work, or have any business to be, where there is any machinery ; but still, for fear of danger, we allow no crinoline. I remember, not very long ago, a woman was killed in a paper mill through being caught by a horizontal shaft, which was thought to be quite out of harm's way, nearly on the floor and close to the wall. It appears that a steam pipe ran along the passage parallel to the shaft, and in stooping to get some hot water, with her back to it, her dress came into contact with the shaft.

Our machinery is oiled while it is in motion ; we have adopted Marshall's lubricator for the wheels of the drying cylinder ; that requires feeding only once a week or so ; it consists of a grease cup fastened on a saddle over the axle of the wheel, and its flow is maintained simply by atmospheric pressure. At parts where it would be dangerous to go close, we have a long tube from above, down which the oil is poured.

I do not find that the health of the boys is injuriously affected by the 24 hours' work; they do not even seem to get very tired ; one of them has been known to go from his work here home to breakfast, and then to school a mile and a half off on the alternate days.

We have a library attached to the works, and many of the boys take the books out; they are probably not accustomed to read aloud, and therefore might seem to you more backward than they really are. The prohibition of night work for children and young persons in our manufacture would merely entail extra expense in an increase of wages by employing adults in their place.

78. *James Nichol.*—Am 14½ ; have been here six months ; was in the rag house for five months, and at the cutter for one ; used to work in the rag house

* A kind of large squirrel cage laid on a slope with spikes inside.

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from 6 a.m. to 5½ p.m., never later; the dust hurt my chest just at first; haven't worked yet the 24-hour shift at the cutter, because of the alterations. The cutter always stops for breakfast and dinner, half an hour for each. Can't do any sums. Have never been to day school since I was 7 years old; was there for a year before that. Have been in the fields minding pigs and sheep, and at shoe-making. Go to Sunday school; know about Pharaoh in the Red Sea; not about Elijah, or Naaman, or Daniel. (Reads fairly.)

79. —— *Nichol* (machine man).—Am father of the last witness; have been at the work from a boy, and always worked the 24 hour-shift; I think that is much better for health and comfort too, than working 12 hours on and 12 hours off, day one week and night the next. You get home after the night turn at 6 a.m., and have to go to bed when every one else is stirring about, and there's noise in the houses and noise in the streets, and you can't get any real rest for the whole of the week, when you are on the night turn. But if you have 24 hours off, you have plenty of time for sleeping in the night, and reading or taking exercise in the day. I think it is better for the boys as well as for the men. They always have some hours' sleep in the night; one often lies down soon after supper, at about half-past 10, for an hour or two; the cutter can cut seven, and often cuts four or five reels at one time, so that they can rest for two hours or more at a time, until several reels are ready for cutting. It takes about an hour to fill a reel.

80. *Henry Hazell.*—Am 14; have been here a year; am in rag house now; was at cutter first; liked that best; the 24 hours never hurt me. The cutter always stopped for supper, if we were on two sheets.

[Read and answered all questions very well.]

81. *John Prior.*—Am 14; have been here four years. Was first in rag room; then went to the cutter and laid sheets. Am now polisher, that is, I clean parts of the machine, and lend a hand as I am wanted. Laying sheets is easiest; you sit, and take them off the felt. I clean different parts, the cylinder frames for instance; the machine is in motion while I clean them. Once I got caught. I was rubbing part of the cutter, and the wiper got between the cog wheels, and my little finger was drawn in and broken. Went to day school from five to eight years old. Went to night school the winter before last twice a week. Go to Sunday school. Can't tell you who Pharaoh was, or what happened to him, or what country he was king of. Don't know the names of any Apostles or Disciples, nor how many there were.

82. *Edward Whitney.*—Am 15; have worked here four years; was at the rag duster for the first year. Used to take the rags from the end of the duster, and carry them in a basket to the rag boiler. Now I am at the cutter. I like that best because it is not dirty. The hours were the same at the rag duster as they are at the cutter, 24 on and 24 off. I come at 6 a.m., breakfast at 8, and have dinner at 1. The cutter stops for half an hour at breakfast, and sometimes for an hour at dinner. It does not always stop for tea or supper. If we are cutting one sheet, it doesn't, because there are two boys to the cutter, and one can lay the sheet then, while the other has his meal; that is how we manage at night too about sleeping. The man lets one lie down for an hour, and the other lays for both. I have supper at about 10 p.m., and lie down and sleep from 12 to 1 a.m., and from 2 to 3 a.m.; the other boy has from 1 to 2, and from 3 to 4. I never lie down before 12. I don't get very sleepy. At 4 a.m. we get a drop of tea and a wash, that refreshes you very much. Then I go off home at 6 a.m., and go to bed. Never learnt any geography. Don't know what an island is. (Reads fairly.)

Messrs. Thomas, Stephens, and Green, Wooburn.

86 persons were employed in this mill; three boys were under 13, the youngest 10½. Between 13 and 18 there were 10 boys and three girls. There were 10 female adults.

83. *Mr. Thomas* stated, that straw was the material used for the manufacture, which consisted of news and printing, and also writing paper. The boys work in 12-hour shifts night and day in alternate weeks.* Most of them, 10 out of the 13, were employed in the machine room, there being four to each of the two cutters, so that if three sheets were being cut, there was one boy to relieve, and therefore a rest of about half an hour in every two hours, or one hour in every four, according as they chose to arrange it. Occasionally, but very rarely, one boy would take the turn of another who was ill, or wished to be absent, and so would work on through the double shift of 24 hours. Such a case had occurred in the week before my visit. It would be a very extraordinary occurrence for both machines to be making three sheets night and day at the same time. The females in the sol occasionally worked from 6 a.m. to 8 p.m. This would happen more often than once a month, but less often than once a week. Their usual hours were from 8 a.m. to 6 p.m., and sometimes 8.

84. Accidents having occurred through boys getting their fingers caught in the rollers of the machine between which the paper passed out to the cutter, a board had been screwed close across the front of each set so as to prevent the hand getting between them; we found, however, one of them only loosely hung on with string.

85. Three boys, two aged 12 and one 14, read fairly: the youngest of them, who said he went to Sunday school, could tell me nothing about Pharaoh or Joseph, nor the name of the Apostle who betrayed Christ, or of any one of the Gospels. He had been at the mill for five months, and had been minding sheep before, but had been for two years to a day school. The two other boys answered some questions in Bible history correctly.

Mr. W. W. Morley, Lower Mills, Wooburn.

76 persons are employed here in the manufacture of millboards, all are of the male sex, 12 being under 13 years of age, and 14 between 13 and 18.

86. Of those reckoned as under 13, four said they did not know their ages. The youngest of all was not quite 9 years old, he had been there a very short time.

87. Most of the boys are employed in sorting waste paper or cutting rags, and carrying material in sacks from one room to another. From this some are drafted up to the machine room as they grow older; their occupation then being to take the sheets of millboard, as they are formed, off from the reel at the end of the machine, and to lay them in piles on a kind of tressle, whence they are removed by men, and dried in the open air. Most millboards, however, are made by hand in a mould similar to that used for writing paper. This is very heavy work, and none but adults were employed at it. The lads also assist in laying out the boards to dry.

* Only one machine was being worked day and night at the time of my visit.

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88. *Mr. Morley* informed me that though he used a water wheel, he considered that a mere nothing, and looked to steam alone for his motive power. He mentioned to me one case of a boy who had put his finger between the cog wheels of a machine, and another in which a lad, who was feeding the rag chopper under his father's eye, lost two fingers through pushing his hand too far forward with the rags along the trough to the revolving knife.

89. The ordinary hours of work are from 6 a.m. to 5 p.m., with an hour and a half for meals. 10 minutes' grace is allowed in the morning, and if any are not in by that time, they lose a quarter day. In addition to the half hour for breakfast, another quarter of an hour before that meal is devoted to daily prayer, at which all the boys and most of the men attend regularly. Mr. Morley stated to me that he found quite as much work done in the day, since this extra quarter of an hour had been given up for the purpose, as was ever done before. On Saturday work ceases at 4 p.m.

90. The utmost extent of ordinary overtime is until 7 p.m.; this occurs three times a week for about 40 weeks in the year. Gas is fitted up in glass lamps at the sides of the rag house, so that the work can be continued there, as in other parts of the mill, after daylight is gone. The 24-hour shift exists here at one of the rolling machines, where a man and a lad of 17 are employed. On very rare occasions work has in some departments been prolonged from 6 a.m. to 8, and even 9 p.m., but no children stayed so late.

91. All but about 12 (who are adults) are paid by the day. The boys, who begin at about 10 years old with waste-paper sorting, receive 2*s.* 6*d.* or 3*s.* a week. Those who "take off" at the machine have 4*s.* and 5*s.*; a boy of 15 at rag cutting, if expert, makes 8*s.* or 9*s.*; one at the rollers has 7*s.*, and another 12*s.*

92. Mr. Taylor, one of Mr. Morley's clerks, is accustomed to take all the lads employed there, half on each alternate day, for half an hour of their dinner hour (12–1), and teach them reading, writing, and arithmetic; sometimes this is varied by singing. A library also is attached to the mill for the use of the workpeople. 23 of the lads present at the mill when I visited it, were had up before me in two classes, to read to me. The first class consisted of 9, who were the older ones, most of them engaged either at the rollers or in the machine room. Each of these read a verse from Longfellow's poem of "the Reaper," which I selected from "the Training School Reader," a book which they were in the habit of using. Most of them read with comparative ease, and some even with correct emphasis and intonation. For the remaining 14 I chose a simple piece out of the Infant School Reader; six of these could only spell out their words letter by letter; the others read fairly. Of the six above mentioned, two had been two years at work at Mr. Morley's, the four others only a few months. The boy, who was under 9 years of age, was not one of these six. All said they had been to day school, before they had begun to work. Several of the older boys in the first class wrote a sentence on slates for me; some wrote a good hand; one lad of 18, who did not come up in class before me, was unable to read.

93. A very intelligent boy of 15, who had been five years at Mr. Morley's mill, and was one of the "takers off" at the machine, told me that he earned 6*s.* 6*d.* a week, when they worked from 6 a.m. to 7 p.m. for three nights a week, but they more often left off at 5 p.m. than at 7; he had sometimes gone on till 8, but very seldom. He said that he found it tiring to stand at the reel and take sheets off, when the pile was high, because then he had to reach so far to lay the sheets even. He was very well contented with his work, and said, speaking of those who, though they had been some time to day school, yet could not read to me, "If a boy means anything, he will learn to read in less time than they had at school." He thought that the older boys at Mr. Morley's had most of them been able to read a little before they came, but were very much improved by the pains taken with them.

Mr. H. Wheeler, Wycombe Marsh.

At these mills 61 persons are employed, none under 13; 8 boys and 10 girls under 18; and 13 adult females.

94. *Mr. H. Wheeler.*—News paper is made here. In the engine houses, where the work is done in 24-hour shifts, none but male adults are employed. In the rag and shaving house the hours are from 7 a.m. to 5.30 p.m.; and in other parts, except at the machines, from 6 a.m. to 5.30 p.m. In the machine house work begins at 6 a.m., and though they sometimes shut down at 6 p.m., they generally go on till 10 p.m.; sometimes they are later, and for about 10 nights in the year work all night. Each machine has four boys attached to it; when three sheets are being cut, the fourth boy, who usually looks after the size, would not be wanted for that purpose, and would therefore take his turn to relieve one of the others at the cutter. When one or two sheets are being cut, the three boys relieve each other; the one who is not at the cutter may sometimes be cleaning up or going on errands for the man.

No boy has less than 4*s.* a week, some have 7*s.*

There are no regular holidays; if it were requisite, they would work on Christmas Day as on any other day, but they generally contrive to have a day's holiday then.

Those who leave at 5.30 p.m. have half an hour for breakfast and an hour for dinner; those who stay later have half an hour for tea.

In order to get any profit out of the trade we must work the machine more than 12 hours a day, and must employ boys to catch the sheets. The amount of overtime depends greatly on the thickness of the paper and size of the sheets; some kinds are as little as 13 lbs. to the ream (demy); some as much as 70 lbs.; the contents of the engines must be worked out, and though no doubt we work our machine at greater speed when we are on thin paper, it must obviously take much longer to work the pulp out in making reams of the former than the latter weight.

95. —— *Williams.*—Am 13; have been here a little over a month; was two years before that at another paper mill; used to look after the dryer there; had to draw the paper through, if it broke, and called the man, if I could not do it without him. Some of the other boys there got their fingers nipped by the cylinders in doing so, but I was more careful and never got caught.

Used to work day and night turns of 12 hours then, but like this better, for I could never rest properly in the day for the week when I was on the night turn. Here I work much longer, but I always get to bed at some time in the night and have several hours' sleep. Very seldom have gone home before 10 p.m. since I have been here, and generally come at 6 a.m.; came

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once last week at 4 a.m. and stayed till 10 p.m.; worked twice in the week before that till 1 a.m., and came again at 5 a.m. the first morning after, and at 8 a.m. the second. It is not at all hard work, and I am not always at work while I am here, for another boy takes my place, and I have my meals or do some other work, but I can't rest, and go to sleep, while I am here. Still I like this better than the night turns at the other place.

[Reads fairly.]

Messrs. Plaistowe, Brothers, Loudwater, Wycombe.

96. At this mill 42 persons were employed when I visited it; only 6 were females, and they all adults; 8 boys were under 13, the youngest being 10, and three between 13 and 18; these 11 were employed in sorting paper shavings, or as rag cutters; their hours in the summer were from 6 a.m. to 6 p.m., and in winter from 8 a.m. to 4 p.m. The paper-shaving sorters earned about 2*s.* 6*d.* and the rag cutters, of whom there were very few, about 3*s.* 3*d.* a week. Three or four more boys were usually there. Water was the sole motive power; the paper was reeled off from the machine, and cut by hand; this was the work of male adults.

97. Out of 6 boys between 11 and 14 years old not one could read, even fairly well; most only spelt out their words letter by letter; one, who was selected as the best reader, spelt aloud every dissyllable before pronouncing it.

Mr. C. Venables, Taplow.

98. *Mr. Venables,* who took me over this mill, stated to me that he had only eight persons under 18 years old in his employment. These were lads in the machine room at the cutter, &c., and worked in 12-hour shifts night and day, four on and four off. He wholly disapproved of the 24-hour shift, saying that as to boys "it stands to reason" that it could not be good for them.

99. He thought that none of them were under 13, but on inquiring one appeared to be a little over 12. That boy had been in the mill for two years; he read fairly; another aged 13 and 4 months had been there three years; he could only read easy monosyllables, and had to spell out the word "Jesus."

100. Brown paper is made here. The sacking and other material used in the manufacture are all cut up by machinery, consisting of an open wheel fitted with knives, which revolves at the mouth of a small trough-like feeder. One of these Mr. Venables said does the work of nearly 50 women and girls.

101. His opinion was, that "the present Government, having done all that can be done to injure "and ruin the paper-making trade in the United Kingdom by the protection and assistance given to "the foreign manufacturer, any further interference would be unjust and arbitrary in the extreme, "and uncalled for."

Messrs. Ladell and Ibotson, Wraysbury.

167 persons were employed here; 6 boys and 13 girls under 13; 16 boys and 18 girls between 13 and 18; 57 male and 57 female adults.

102. Several of the children did not know their own age; the youngest two were girls between 9 and 10; two girls and one boy were between 10 and 11. One boy of 13 at the cutter could not read the word "sorrow;" he had been working at the mill for 1½ years, and had begun pig minding in the fields at 10 years old. Another boy and three or four girls read tolerably; the girl of 9 better than some two or three years older; she had been at work only for a few weeks, and went to day school before that, but only to Sunday school now. Another girl who did not know her age, but was apparently about 12, read badly; she said she attended night school, but had not been to Sunday school for some months, because she had to stay at home and mind the baby. She could not give me the names of any of the Apostles, nor say who St. Peter and Judas Iscariot were, and what they did, or how Jesus died; all she could tell me was that Jesus was a spirit.

103. *Mr. Ladell* conducted me through the works, and gave me the following information:—

Printing paper for books and millboards are made here, the former by machine, the latter by hand.

In the machine room, which is the only part in which any under 18 work at night, two boys of 12, and 6 lads between 13 and 18, are employed in two gangs on 12-hour shifts night and day in alternate weeks; the change being made by those on the day turn working from 6 a.m. to 12 p.m. on the Saturday and from 12 to 6 a.m. on the following Monday. My own impression of the 24-hour shift is that the men are asleep half the time, in fact they sleep in their employers' time and work in their own. I would never have it here.

The hours for men and boys at other parts of the works are from 6 a.m. to 5 p.m.; those at the millboard rollers sometimes exceed this. At another mill belonging to us lower down the stream the boys at the rollers not frequently make 65 hours in the week; 70 is, as you see from the wage book, an extreme case, they are about 15 or 16 years old. They are not always at the rollers, but also lay the boards out to dry.

The longest hours for women and girls are from 8 a.m. to 4.30 p.m.; in the two rooms where the young ones, the majority of those under 18, work, they are less. One gang who sort refuse paper, work from 8 a.m. to 3 p.m., and the other, who sort paper shavings, the cuttings of bookbinders and stationers, from 8 a.m. to 4 p.m. The latter is cleaner work, the former is very dusty, but there is nothing more than the mere dust, none of the flue of rag cutting.

These girls are paid 6*d.* a day by us. They are placed under the superintendence of forewomen, but do not work in any sense for them. Still we have not interfered much in hiring them; if we had, we should not have had any so young as some of them are.

Half an hour is allowed for breakfast and an hour for dinner. Those who work from 8 a.m. to 3 p.m. have a half hour for dinner; they preferred that to working till 3½ p.m. and having the whole hour. In the machine room, where the work is continuous, the meals are taken without leaving the spot, but the four boys are rarely wanted all at once, except in case of a breakage.

The prohibition of our night work would stop our works and prevent the boys from learning their trade. Legislative interference with our manufacture is likely to do more harm than good.

Messrs. C. Ibotson and Sons, Poyle Mill, Stanwell, Middlesex.

Out of 108 persons employed here only six were under 18. These were all boys, the two youngest being between 12 and 13. The women were 59 in number.

Millboard and superfine paper for drawing, &c., are made here.

104. *Mr. Ibotson, junior*, who conducted me through the mill, stated that women's hours are from 8 a.m. to 5 p.m., with an hour for dinner. In the machine room men and boys in two relays work from 6 to 6 in 12-hour shifts, with an extra five hours on the Saturday to effect the change of turn. He found both men and boys got very sleepy by 11 p.m. on the Saturday, and doubted much if any advantage was got out of the 24 hour shift.

105. He informed me that boys usually came to work at the mill at between 11 and 12 years old. They would begin at the rolls, where the millboards are glazed, their chief work there being to take out the boards from the rolls, and to lay them to dry either in the loft or in the open air, according to the state of the weather. On looking through the wage book he found that the boy at the rolls often made seven or seven and a quarter days in the week, the day consisting of 12 hours, less one and a half for meals, or ten and a half working hours.* In one recent week a lad 12½ years old had made on the five days respectively, two, four, four, two, and three hours' overtime; that, however, was more than usual. He thought that a law for boys not to make more than six days in the week would not inconvenience them in their business; at the same time he observed that the work was varied, as, for example, the lad would not be employed at the rolls for more than four or five hours out of the ten and a half of the day.

106. Four boys at a time are attached to the machine. When I entered the room with Mr. Ibotson one was laying sheets at the cutter, only one sheet being then cut at a time; a second had been set to occupy his time by cleaning the outside of a copper in the room; a third was doing nothing; and the fourth came in as I was leaving, having been on some errand for the man.

107. The cog wheels at the drying cylinders were shielded; before this had been done a boy had had his thigh broken through being caught in them. His father described the accident to me as having happened in consequence of his foot slipping, as he was leaning over to lead the paper through after a breakage. A man's arm had also been broken under somewhat similar circumstances.

A boy aged 14, who had been three years at the mill, read well. He was then employed in the machine room, but had begun at the rolls.

SURREY.

Mr. J. MacMurray, Wandsworth.

The machine room here is a model specimen. It is large and well proportioned, allowing ample space for passage between and beside the machines, and is kept marvellously clean.

108. We have very few indeed under 18, and no children, except now and then, perhaps, two or three who come for a short time to pick at the beating engines, but they never stop long with us; the fact is they cannot stand the night work. You will rarely find many children employed where, as is the case here, only news and general printing paper is made.

Our paper making machines have each of them a man and a lad, and three girls or young women working at or in connexion with them day and night; the lad helps the man in different ways; two of the girls "catch" the paper at the end of the cutting machine, and the third "finishes." Our cutting machines are all attached to the paper-making machines, and what we call finishing is no more than taking the sheets from the cutter, counting them, and folding them for packing.

Two or three of them of each sex are about 18, and two or three about 15 years old; they work 12 hours at a time; those who are on the night turn have five turns a week, the others have six; and in order to effect the change, they go on from 6 a.m. to 11 p.m. on Saturday, that is 17 hours, and from 12 on Sunday night to 6 a.m. on Monday; then those who had the night turn in the week before come in for the day turn from 6 a.m. to 6 p.m.

They have no fixed time for their meals, they bring them and eat them here; not all exactly at their work, for the finishing girl comes and takes the place of one of the catchers while she gets her food. The catchers generally have 8*s.* a week; that youngest has 7*s.*; some women get 15*s.*

We have one or two adult women also, who wash and clean the place, and six girls or young women from 17 years old, who help at the bleaching engines, most of the women, however, are cutting or sorting rag. The hours of the rag cutters are from 7 a.m. to 6 p.m., with an hour for dinner. They are all over 18; little girls of 13 or 14 could not reach our tables, and would cut themselves to pieces, besides doing bad work.

There is a ventilator on Watson's principle of the up-and-down draught all along that part of the roof of the machine room that is over one machine and its cylinders; but with every contrivance the room is always hot; 90° is about the average heat; in hot weather the thermometer stands at 100°; to-day (August 27th, autumnal, H. W. L.) it is 91°; to prevent the steam from condensing, the roof must be kept very dry, so we are obliged to have a high temperature.

I must say for my own part that I very much dislike and disapprove of this night work. It is not that the physical effects are bad—at all events our people are all wonderfully healthy while they are working for us; but I think the moral effect is by no means good. So far indeed as the working of the two sexes in the same room at night, we have been very fortunate; but from a social and even a sanitary point of view, it operates badly, and this more upon the families of the men, than on the men themselves. It frequently happens that all or most of the members of a family work for us; some being on in the day and some in the night; the consequence is that one is no sooner out of bed then another gets into it; that is most unwholesome. Then again the girls here often marry the young men whom we employ, and remain in our employment; they have no time for domestic duties, so that their dwellings are rarely cleaned, and if not overcrowded by their own families, they make them so by taking lodgers; of course, other people than paper makers have dirty and overcrowded dwellings, but these are in a special way, as it were, tempted and almost forced to do so. I notice the bad effects in the pale sickly faces of the children, who bring the food here sometimes for their parents or elder brothers or sisters.

* A day on Saturday is reckoned as 11 hours, with the same deduction for meals as on other days.

Paper Mills.

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Besides this, the men themselves have no time for education and self-improvement, while for the younger ones it is far worse, they have not even time for play, which they want as much as learning, or they take it out of the time for eating and sleeping, but they ought to have time for all these. Here is one instance: that young woman, who is "catching" there, cannot read!

The fact is, people ought to be made to have the day for work, and the night for rest. My own conviction is—though I believe that very few employers in our trade agree with me,—that if a general act were passed to prohibit night work altogether, for male adults as well as for women and children, it would be a benefit to the trade; the quantity produced would be lessened, and then prices would rise, or more capital would be invested and plant laid down. Foreign competition no doubt then enters into the question, so far as certain classes of paper are concerned; but I think that is more used as an argument than feared as a danger.

No doubt, also, there is loss from stopping, or rather from starting afresh; waste both of fuel and of material. After we shut down on Saturday, everything gets cold by Monday morning; we do not work out the contents of our troughs, but leave them, as they happen to be, till the Monday. There is the extra consumption of fuel, before the whole gets in working order; the contraction and expansion of the cylinders, boilers, and other parts of the machinery, which actually injure the latter, and, in the first-mentioned case, by altering the speed of revolution, cause the greatest trouble; thus the consequent waste of pulp, and the amount of bad paper always made at starting, are astonishing. I assure you, our trouble every Monday morning is nearly enough to drive one cracked, and if I were not here from the very first at midnight, and constantly looking after this one or that one, till we are fairly started, I think we should never get off at all. However, in 12 hours they would not get so cold, as they do in 24 from Saturday night to Sunday night. Some time ago we had to shut down for eight hours at a time repeatedly for several weeks, and never had any difficulty in starting after that interval.

With regard to health, I am often surprised at our men; some who have been 14 and 15 years here have not been absent for a day from illness or holidays. But I am very strict; no beer is allowed here on any pretence, and no irregular person stays with us. At the same time I am not so sure that we are right in inferring that the night work does not hurt them, because they are apparently strong and hearty now. It is all very well so long as they are young: we don't notice how it happens with them as they get old. It is more than probable that there comes a time, all of a sudden, when they go down like a shot, because they have been living unnatural artificial lives, and have no real strength to resist disease or decay.

With regard to stoppages, I should tell you we are not a fair sample, for we do not even change sorts on an average more than once in 24 hours; in many mills even the felts, &c., would be changed every day; we constantly have very large orders, and our power is such that 200 reams can be made here by one machine in 12 hours; that is 200 times 516 sheets. Suppose an order for 800 reams, we could do it in 24 hours with two machines, and should not have to change anything.

I have said that night work should be stopped for all: indeed, if men were allowed to work through the night while women and young persons might not, a great injury and injustice would be done to persons who, like ourselves, have our cutting machines attached to our paper machines; for we should be obliged to work our men through the night to keep up with others in the trade who would still do so; but we should also have to employ men at the cutting machines, whose fingers are not nearly so fit for the work as women's, and whose wages are much higher; while others, who have their cutting machines separate, could reel off all they made in the night, and have it cut by the women as usual in the day, without interfering with what they make in the day time, as all the paper made by one machine in 24 hours can be cut by a separate machine in 12.

109. *Lad at machine.*—I am 18; began work in the fields at 9; came to a paper mill at 12; used to help the men first, to carry things for them; before long had to pick out blacks at the beating engine; that tries the eyes, it dazzles so; but it hasn't hurt mine. Used to work 12 hours on and 12 off then as I do now; always like the day work best. Watch the paper through the cylinders now; shouldn't like at all to do it for 24 hours at a stretch; get quite tired enough after 12. Those women never come anywhere near the straps which come through the floor, nor the cog wheels or gearing.

110. *Mrs.* ——— (a young married woman).—Sometimes there are four girls at the cutting machine, sometimes three, as now, but most commonly two; it depends on the size of the sheets into which the paper has to be cut. Some are always here; the extra ones come as they are wanted. Their work is light enough; each of them has two half hours for meals in the 12 hours of their work, and two rests of 20 minutes besides. During that time one of us two takes the place of the absent one at the machine That is an agreeable change for us also, for our counting and folding is all standing work, and more tiring than theirs, for they sit always.

I should not like at all having to do this for 24 hours, even though I rested or did what I liked for the next 24; indeed I could not. The 17 hours' turn on the Saturday makes us all very tired, but as that comes only once in a fortnight, it does us no harm. There is a third half hour for tea at about 6 p.m. there. We all prefer day work to night work I think; I know I do myself.

[111. The three girls at the cutting machine, and the other finisher, gave me very similar information. The youngest of them told me that she was 13 years and 6 months old, and was the youngest in the room; she had been at work there only a few weeks.

112. Another stated that when they were on the night turns, they had their breakfast as soon as they reached home, at about half-past 6 a.m., and then went to bed until 3 or 4 p.m., when they got up and had their dinner, so as to get to the mill again by 6 p.m.

113. A third said that the room was very warm in summer, but that it was kept beautifully clean, the boards being washed twice a day. All agreed in preferring the day to the night work, and in thinking, from their experience of 17 hours' work once in a fortnight, that they could never stand 24 hours of work, and should not like it, even though they would have the following 24 entirely at their own disposal.

114. Upon this subject the machine man observed that in the country, where the system of 24-hour journeys was very general, the men all liked it, because they often did nothing for seven or eight hours out of it, and could work in their garden or do as they pleased on the alternate days, but that at Wandsworth every one worked hard all the time they were there.—H.W.L.]

Messrs. Pewtress & Co., Eashing, Godalming.

93 persons are employed here; 38 are females. The youngest is a boy aged 12 years 11 months. Another boy is between 13 and 18 years old. The rest are all adults.

115 *Mr. Elwyn*, clerk.—We make paper for newspapers, and have both steam and water power, but chiefly use the former. Out of the 93 now employed here, two sets, of 12 persons in each, work in journeys of 24 hours. All the 24 are adults; six are females. The latter are at the cutting machines; three to each machine. We have three, although only two can work together at a time, in order that they may relieve one another, for it is often hard work to draw our large heavy sheets off from the revolving felt, which delivers them from the cutter, as they frequently stick to it. The two sit at the end of the machine opposite one another; each takes an hour at each side, and then is off for an hour, during which they prepare and take their food, and those who have husbands or sons here, prepare their meals for them also.

On Saturday the journey hands work from 6 a.m. to 11½ p.m., and the fires are lit again at 9 p.m. on Sunday night, but the work does not begin till 12. The set that worked the 24 hours on Friday come then, and work only till 6 a.m., when the other set come on for their 24 hours.

There certainly may be, and have been, moral evils connected with the night-work, but very much depends on the general management. We endeavour to have steady married women and respectable men, and consequently avoid any harm. But when young people of both sexes work through the night together, it is a bad thing, and is well known to have bad results.

Those, however, who work the 24 hours, all say they prefer it, especially those whose homes are at a distance, and some of ours live three and four miles away; indeed, we tried working in journeys of 12 hours for some months three or four years ago, but the men did not like it at all, and asked to return to the old system. It is nothing more than the force of habit. The mill has been here for 30 years, and they have grown up with the system.

I have been here ten years. In that time there has been no very serious accident; but we have been remarkably fortunate. We have not lately had even trifling ones. A year or two ago several of the lads, one after the other, had their fingers nipped between the cylinders; they lost their nails and so on, but not the joints in any case. One of our men lost his arm some years back; that was in saving a woman whose dress was caught between two cog-wheels. We have had a guard put there since.

116. *Mr. Sanderson* (foreman.)—Besides the loss of the 12 night hours there would be a great loss of fuel, if we had to work only from 6 a.m. to 6 p.m. We think our fires are lit very quickly on Sunday night, if they are ready in two hours. No doubt there will always be also a loss in waste of pulp and paper at recommencing, but so far as that goes, stoppages are matters of daily occurrence in every paper mill, to clean and repair the felts, belts, and wires, &c. takes on an average two or three hours in every 24; this is part of the work of those who are in charge of the machine; the felts, &c. are changed about once in 24 hours; that takes nearly two hours; the females generally rest, while the machinery is still.

The rag cutters, whose hours are from 8.30 a.m. to 5.30 p.m., have an hour and a half for meals; their earnings average 6*s.* a week.

We pay the women at the cutting machine 8*s.* a week; when I first came I told Mr. Pewtress that girls under 18 might be had to do the work for 8*d.* and 9*d.* a day, as they did at other places that I had been at; but he would not introduce younger ones for the sake of saving a little. Still if we wanted a woman at the cutting machine, and a strong girl of 16 offered, we should probably not refuse to take her on; indeed, we had one of about 15 or 16 two or three years ago.

There would be a difficulty, if women were not allowed to work at night at the cutting machine, for it is not man's work, and at all events a good deal more would have to be paid.

Several bad accidents have occurred at other mills at which I have been; some through the bursting of boilers or of beating engines; at one a man's arm was caught between the glazing roller at the top and the large cylinder as he was trying to tear a crack off; that is not an uncommon source of accidents. Any loose garment too is dangerous. I was in a paper mill in Russia, where the men wore their shirts or blouses outside with a belt, and they were constantly in danger of being caught in the cog wheel, till I made them tuck them in.

117. *W. Smith* (engineer at beating engine.)—I have been at this work for eight years; in that time I have been twice absent from work through illness, for about five days each time. We were then on a low sort of rag, which we bleach in the same engine that the rag is beaten in; the "souring," which is put in to bleach, sets the gas free, and that gets on the chest, and makes you cough and retch; I had to go to the doctor, and to take pills. The bleaching is mostly done away from the engine, and then there is no harm. My health is very good.

118. — *Bonner* (rag foreman.)—I myself would sooner be among all this dust than at the beating engines. I tried them once, but I gave that up in six weeks, for I could never eat my food, and the "souring" made me get puffed, and blew me up like a toad; it was not the 24 hours' work that hurt me, for after that I went to stoking, and that did very well for me. It is all a matter of constitution; no one with a delicate chest should be a rag cutter; but most of them get on well enough after they are used to it, with the help of a little opening medicine now and then; they do sometimes cough it up.

I have been in other mills in this district; children are not much employed in them. I was, however, at one two years ago, where there were 34 females; 19 of them were sorting and picking waste paper, and out of them nine were under 13, but the youngest was nearly 11. That was not regular work; it lasted about two months, and then these children went off home or to school, for we did not do any more of that. If we had had another lot of it, we could have sent for the children again, and have had them at any time.

119. *A rag cutter* who had been for 19 years at the work told me that her chest always hurt her; but she had been in service before that, and had then suffered in the same way. The dust always affected her more in the winter, when she would be more liable to catch cold. She thought that the action of cutting was rather good, as it tended to open the chest, and that rag cutting was at all events more healthy than dress-making, at which she had sat all day long when she was younger; at the same time, women who worked in the fields were no doubt more healthy than rag cutters.

120. I afterwards spoke to the man to whom the accident had happened, and was shown the place where it occurred. There were two machines placed side by side in the room, with space enough for a man or woman with garments of ordinary size to pass between the two with safety. But the woman in this

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case had left her usual place at the end of the machine, and was standing with her back to the machine in motion, half way up the room, receiving instructions from the machine man as to the darning of the felt of the other machine, which was at rest. Immediately behind her were the cog-wheels of the machine in motion. These, through some movement on her part, caught her skirt, and in trying to drag that away the man's arm was drawn in and crushed, before the machine could be stopped. The woman escaped uninjured.

121. I was informed that the machine was commonly oiled while in motion, always by a man. Wooden galleries were placed at different parts, which enabled him to pass to do this in safety.

122. It was stated to be a matter of general experience that if the top of the machine room was cold, the steam condensed and dropped upon the paper; it was therefore necessary to maintain considerable heat at all times in that building. This was said to be more trying to the older than the younger women. H.W.L.

Messrs. Spicer, Brothers, Alton, Hants.

104 persons are employed here. 47 are females. Five boys are under 13; 12 boys and 10 girls between 13 and 18. The youngest boy is between 10 and 11 years old.

Writing and account-book paper is here made by hand; steam power, and occasionally water power, being used for the beating engines and glazing rolls.

Mr. Henry Spicer, and his nephew, *Mr. J. H. Spicer*, who resides at the mill, conducted me over the premises. The following statement, drawn up by me, has received their approval.

123. Steam power had for the last year been used to move the hydraulic presses, since it was found that the boys, who used to work the hand wheel, complained of the fatigue of doing so. This was commonly the duty of the "layer," who frequently was a lad of from 15 to 17 years of age. Trucks, which run upon rails, are used here to carry the "posts" from the vat to the press. Thin paper is very seldom made at this mill, and the vat's crew rarely work longer than from 5 to 5, and more frequently less. The youngest apprentice was 15, and had been a year there.

124. The women in the "sol" usually work from 8 a.m. to 5 p.m.; sometimes they begin at 7 a.m. The youngest in this room, a girl of 15, said she had been there a year. In the rag-cutting room the hours are from 7½ a.m. to 5½ p.m. The youngest here, a girl who said she was 13, but did not know her birthday, could read a little; another aged 14 could not "read Testament." Both these girls had been a year at work.

125. In the glazing room about 12 boys are employed from about 11 to 15 years of age. They work in sets of three, one taking the glazed sheets, as another lifts the plates off the wad, and places them one by one on the unglazed sheets, which the third supplies. The usual hours here are from 6 a.m. to 7 p.m. with about three-quarters of an hour for breakfast, an hour for dinner, and half an hour for tea. Mr. Spicer, junior, stated that he had no means of arriving at the amount of overtime made by each individual in the glazing room, but that his books shewed that in the aggregate the overtime would average seven hours a week, or from 5 a.m. to 7 p.m. Occasionally work goes on through the night; in that case a double shift of boys is always employed. Sometimes when working overtime, girls from the rag room come, after their own work is over, to relieve the boys in the glazing room. There is no scarcity of boys.

126. The "folders" who lay the plates on receive 10*d.* a day; the "putters in" and "takers out" 8*d.* Last winter they used to "shut off" early at 6½ p.m. to enable them to go to night school. During the hopping season, which lasts for three weeks or a month, very many of the hands leave the mill, and return after that is over.

127. Mr. J. H. Spicer thought that the rag cutters were very healthy now that they had a new and large room; but it was not an uncommon thing for them to faint in the summer, when they used to work in the old room, which was small and close.

128. *Jane Pearman.*— Am 16. Have been four years here. Was for the first two years in the glazing room and picking the paper, and have been two years in this sizing room. I stand at this end, and put the sheets three at a time on the felt, which takes them through the size, and another girl at the other end takes them out. It is very hot here; the heat makes me ill sometimes. I stayed away for a day last week because of it. I have been off work for a week at a time; it gives me a sick headache.

[129. *The man* who looked after the size told me that the last witness seemed to suffer from the heat more than the others who had worked there. The hours were 12 in the day for five days only in the week, Saturday being occupied in washing up. Work goes on, while they have their meals, but the girls are then relieved by others who take their place for a time long enough for them to eat their dinner. A thermometer placed within a short distance of the part where the girl stood rose to 79°. The man stated that in summer it was much hotter.]

130. —*Aiston*, (boy in glazing room).—Shall be 12 next March. Have been here a year. Come to work at 5 a.m. on most days, at 6 a.m. on Mondays. Leave at 7 p.m., and sometimes 8 p.m.; on Saturdays at 3½ p.m.

[This boy answered several Bible questions fairly, and read most words of one syllable correctly, but he could not read "cross" or "sacred," even after spelling them. At first he stated in answer to me that he came to work at 4 a.m., but afterwards I found that he meant that he got up then.

131. Another boy aged 11 next Christmas, who had been at work since May, gave me a similar account of his hours of work.]

132. *Levi Mason.*—Am 13 next Christmas. Have been here a year. Went to day school for near a year before that. Go to Sunday school now. Don't read there. Am read to by teacher.

[I tried this boy with a hymn beginning, "Jesus lives;" he had to spell out even

the first word letter by letter. He could not tell me the name of any Apostle or other person mentioned in the Bible, and on my trying to help him, did not know anything about "two brothers being called by Jesus "to follow him, as they mended their "nets by the seaside." His father was a paper-maker, earning 45*s.* a week. He and his next brother earned 10*s.* together, an older one 14*s.*, and his mother 6*s.*, all living together and employed in the same mill!

133. One of 16, who had been at the mill for two years and a half, and was at a printer's before, read tolerably well; he, however, stumbled at the word "enmity," and did not know its meaning. Another, aged 11½, read fairly; he had begun work as an errand boy at 9 years old.]

HERTS.

Messrs. J. Dickinson and Co.

1. Nash Mill.

[In September 1864 the lads under 18 years of age employed at Nash mill were 18 in number, only three being under 13; the youngest was aged 11 years and 2 months.]

134. *Mr. John Evans.*—I am managing partner in the firm of Messrs. Dickinson and Co., paper manufacturers. We have a number of mills all along the stream from Two Waters to Rickmansworth; the one, which you have seen already (*inf.* 3) supplies four others with the "half-stuff" or fibre to be made into pulp for paper. At this and our other mills where the paper is made, the manufacture is continuous from 12 on Sunday night with water power, and from 6 a.m. on Monday with steam power day and night until Saturday night. I believe it is true that some boys have been met coming from our mills early on Sunday morning; that, however, would be an extremely rare occurrence. They work in journeys 24 hours on and 24 off. The boys who work in that way are chiefly employed in picking any foreign matter out of the half stuff, as it is being ground to pulp in the rag engines; they take it in turns to lie down during the night, and after a certain time the picking ceases, that is to say, the time comes, when the pulp in the engine has been completely picked, but still requires further grinding; then the boy has nothing to do.

Our rule is to take none under 10½ years of age, and from that up to 13 and 14. We have schools, and compel one group of boys each day to attend them. We probably employ more than the usual proportion of boys, taking all our mills together; for at one there are 150 or so folding envelopes; theirs is only day-work, 6 to 6, with two hours for meal times, and they eave at 2 p.m. on Saturday. Boys can earn from 3*s.* to 7*s.* and 8*s.* a week with us.

We also employ boys at the cutting machines to "catch" the paper; but as those machines are separate from the machine that makes the paper, they do not work day and night. The paper as it is made is "reeled" off, and taken to another machine to be cut. A cutting machine can cut in the day as much as is reeled off in a day and night. We do not scrape our strainers, as the paper is being made, and therefore do not employ boys for that purpose.

We have had serious accidents, but not from cog-wheels catching parts of dress. A short time ago one of our lads was killed in trying to put on a strap to set some machinery going. It was no part of his work: indeed, he had no business to be in the place at all. It is not known how it happened, for it was just after breakfast, and no one was there.

I do not think that any system like that of the factory half-timers working by relays could answer in a sparse country population. We try as far as we can to make a certain proficiency in the elements of education a preliminary to employment; some general scheme of that kind might be made to work.

135. *Mr. Peacock* (foreman).—The boys at our cutting machines very rarely exceed their ordinary hours, six to six; they certainly do not make two hours overtime in a week, taking the whole year round, and that would not happen continuously night after night for a fortnight or a month, but only for a night or two now and then. We have as many cutting machines as we have paper-making machines, and can cut two sheets at once (that is to say, can have the paper of two reels passed under the knives of our machine at the same time); of some kinds of paper we can cut more than two at once.

The hours of the women in the "sol" who sort the paper are from 9 a.m. to 5 p.m. with an hour for dinner; they are on piecework, and never stay for more than an hour beyond their usual time; only one of them is under 18.

Our stoppages in the ordinary course for cleaning felts and wires, changing sorts, &c., are usually arranged so as to take place at breakfast time; I should say that our machines are shut down every morning from 8.30 to 11, or thereabouts.

136. *Samuel Lendon.*—Am 13; have been here four months; I pick at the engines; begin work at 6 a.m. and go on till 6 the next morning; at 10 p.m. I always lay down and go to sleep till 2 a.m.; when I am asleep, that other boy is on.

137. *Henry Lane.*—Am 11 years 10 months old; began here last July 12 months; I go on till 2 a.m. to-morrow morning; then I shall lay down from 2 to 6. I shall get half an hour's sleep before that, at about 11 p.m. to night. I came on at 6 this morning.

[Both these boys and one or two others whom I asked had been to school and could read. H.W.L.]

2. Home Park Mill, King's Langley.

138. About 16 boys of ages varying from 10 to 12 were employed in picking paper shavings. Several of these could not read; they seemed to be inferior both in education, demeanour, and in physique to others not much older than themselves, who were employed in the glazing room, at the cutting machine, and as helpers about the place. Mr. Evans attributed this simply to the fact that the latter had been regularly employed for a longer time on the premises, while the former had been taken more recently from the fields.

139. *The foreman* here stated as his excuse for having taken on some, whom I noticed as looking too young and unfit for work, that at this time of the year (Sept.), so many preferred field work, that he could not get older ones.

140. Several women were employed here in laying colour on in a liquid state to sheets of paper by means of brushes, a process similar to the "grounding" of paper stainers (First Report, App. p. 119); one or two of them were 16 or 17 years of age. The coloured paper was afterwards glazed by the ordinary process.

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141. It was not found necessary for those, who worked by day only, to exceed the usual 12 hours of work; at the "engines" and paper-making machines the system of 24-hour journeys prevailed in this, as in the other mills of the district.

3. Batchford Mill, Rickmansworth.

187 persons are employed here; 145 are females; 2 girls are between 12 and 13; 6 boys and 16 girls between 13 and 18 years old.—January 1, 1863.

142. *Mr. Tolley* (manager.)—All that is done at this mill is the cutting and sorting the rag, which is what the women do, and reducing it to the state of fibre, which we call "half stuff," preparatory to other processes, which it undergoes at other mills along the stream belonging to the same firm.

We have now 187 persons employed here; sometimes we have many more; the youngest are two girls, who are between 12 and 13 years old; as a rule we seldom have any here under 14 years old.

The females work from 8 a.m. till 5 p.m.; the mill goes on day and night, and the men work in sets, three in each set, from 6 a.m. to 6 p.m., or from 6 p.m. to 6 a.m.; the lads do not work through the night; they sometimes stay as late as 8 p.m., but never later; they feed the sifters which cleanse the half stuff.

The women are now leaving off at 4 p.m.; and some come or not, just as they please, for nearly all, of both sexes, are on piece work. We begin to pay on Saturday at 4 p.m.; sorters have about 8*s.* and dusters 9*s.* a week; some of the lads at the machine have 10*s.* Half an hour is allowed for breakfast at 8 a.m., an hour for dinner at 12, and half an hour at 5.30 p.m. for tea.

I believe that the rag cutting and sorting, or rather the dusting, does not do any harm to persons of an average state of health; it does not suit unhealthy ones.

It might, and probably would, work well to insist on a certain amount of education as a preliminary on the employment of young persons; but we have too few under 13 to work on a half-time system.

4. Apsley Mill.

143. Nearly 250 lads from the age of 11 upwards are employed here; some in the manufacture of paper, but the majority in making envelopes. I examined more than a dozen boys between the ages of 12 and 17: most of them could read without much difficulty a verse of a hymn, which consisted of words of one syllable, and could answer simple questions of Bible history. None had learned any geography, and few any cyphering beyond addition and the multiplication table. The words "enmity," "continue," "atoning," were read correctly by three or four only. The words "image," "inspired," "coward," "captive," by six or seven.

144. By a rule of the establishment, all the younger ones were compelled to attend Sunday school, and books of such attendance were kept by the respective masters, and regularly forwarded to the resident foreman. Any boy who had not been to Sunday school had to go to the day school at Nash Mill for the greater part of some one day in the following week.

145. Several of them attended an evening school which was held on three or four nights in the week during the winter months. A very intelligent lad, aged 17, whose name I omitted to ask, a layer at the cutting machine, told me that he had worked in the mill for seven years, and had got all his learning from evening school.

146. *The foreman* stated to me that he had for some years been strict about admitting none before they were at the least 10½ years old, but still some who were younger now and then obtained admission by the misrepresentation of their parents.

147. *Frederick Rolfe.*—Am 12; have been here 8 months; used to cut straw for straw plaiting before that; began that at seven years old. Have never been to any school but Sunday school since that; know something about Daniel and lions; not about Elijah.

148. *H. Atkins.*—Am 12; have been here for two years; went to a day school for about two months; don't know who Judas Iscariot was; Jesus Christ is everybody.

[Reads badly.]

149. *Thomas Sear.*—Shall be 12 in the month before Christmas; don't know what month that is, nor what month Christmas is in; can't tell you the first month of the year, nor what month this is. Have been here three parts of a year; have not been to any day school for four years: worked in the fields before I came here.

Reads letter by letter.

150. — *Beckett.*—Am 16; have been 7 years here; began at picking half stuff; was at that for a twelvemonth; then all us young ones were sent away, because we did'nt do it well enough. Went to the rolling room at about 10½ or 11; am now in the envelope room. Tried picking at the engine for one night, but did'nt like the 24 hours work at all, not the night part of it, so had no more of that. Am no scholar; can read only a very little.

151. *Joseph Smith.*—Am 15; have been in the engine house for three years; was at envelope folding for two years before that. Like the 24 hours turn, which I have now, much better than the 12 which I used to have in the day time, because I get a whole day to myself three times a week; should still like it best, even if I could earn as much at one as the other. I don't get sleepy; I come on at 7 a.m., and don't sleep till 2 a.m.; then I sleep till 6 a.m. The other boy with me lies down and sleeps from 10 p.m. to 2 a.m.

Messrs. G. W. Hayes and Co., Two Waters Mills, Hemel Hempstead.

91 persons are employed here; 59 are females; none of either sex are under 13; 18 girls are under 18.

152. *Mr. Hayes.*—We make nothing but superfine paper for printing, not writing paper nor news. Females are employed by us only as rag cutters and sorters, or paper sorters; we have lads at the cutting machine, but they are over 18 years old.

The hours of the women are from 9 a.m. to 5 p.m., with an hour for dinner; they work perhaps a dozen times in the summer until 7 p.m.; but they have only once been later than that; they worked until 8 p.m. for one week in July last. I do not like their working, as a rule, longer than seven hours a-day among the rags; for though we use a dusting machine, which gets rid of the worst portion of the dust before the rags come to the women at all, it is not altogether a

wholesome occupation, at all events not for any whose chests are weak.

Many of them make straw-plait at home after our work for the day is over; there is a straw-plait market here once a week; and straw-plait schools for quite little children; these have a bad effect, for they prevent the young ones from receiving any proper education; we have ourselves paid the fees for children to attend the national schools, and have found that they did not go; their parents preferring that they should earn a few pence at plaiting.

Our men, who are all over 18, work in journeys of 24 hours; it is the custom of the trade in this district, and they all prefer it to any other. For my own part I should be rejoiced if night work could be wholly done away with; not on account of the men, for their health is very good; and where only men work there is no objection on moral grounds, but simply because of the immense anxiety it occasions to the employers; I have myself to be constantly on the watch, staying up till 1 or 2 a.m., or getting up at 3 or 4 a.m. for fear of accidents or damage. I must admit that we have never had any accident at night, and we have had some in the day; but still I think night work dangerous and scarcely profitable.

Upon their health the 24 hours' work appears to have no appreciable effect; we have one man over 60 years old who had always worked in that way, and several others have been a long time at it. A great portion of the time is spent in resting and watching. The lad at the cutting machine, for example, lies down and sleeps for two or three hours in the night, while several rolls are being reeled off, for our cutting machine, though in the same room as the paper making machine, is separate from it.

I am very careful to have all cog wheels boarded off, and the gearing placed where there is no passage; I never allow aprons or loose blouses and such things to be worn.

Our stoppages do not amount to much; about once in every 24 hours the deckles are shifted to change sorts, that is, to alter the size of the paper; half an hour is taken up with that; we wash the felts only twice a week, and that occupies about 20 minutes. We clean our wires, perhaps twice in a month, by applying fire to them. The "souring," which is put by some into the bleaching engines, consists of vitriol and water. We think it best to apply it to the half stuff after bleaching, if it must be used at all. The effect of putting it into the bleaching engine is to disengage the chlorine gas.

After the rags have been cut and sorted, they are boiled and then washed and ground in the rag engine; then they are bleached; after that steeped for 24 hours, and dried. They are then transferred to the beating engine and thence pass to the machine in pulp.

153. *Mr. Johnson* (foreman.)—I think that the 24-hours' journey has advantages over 12-hour shifts; a man who has worked the night shift is too apt to drop in at the public-house as he goes home in the morning, and to stop there long enough to make him unfit for his work at night again; but if he is off for 24 hours, at all events he has time to go to bed, and be fit for work the next morning.

There is nothing at all injurious to health in bleaching with the powder, as we do; that is now in general use; but gas bleaching is killing work indeed.

154. — *Mutton.*—I have been among bleaching engines for 45 years; the powder we use in the poaching engine is rather good for the health; the gas bleaching is very different; I was at that for three years and it nearly made an end of me; I used to spit blood; if it catches you, when you open a chest, it throws you right down in a kind of faint; you get blown out like a barrel; the only thing is, when you have to open a chest, to pull the board down and run off as hard as you can. Gas bleaching is not so common as it was, but I know of places hereabouts, where they use it still.

I have always worked the 24-hours' journey, and should not like to change to 12 hours night and day shifts. It never hurt my health, nor anyone else, so far as I know. When I get home at 6 a.m. I have my breakfast and then go to bed till 2 or perhaps 4 p.m., then I have my dinner and work in the garden and go to bed again at 9 or 10 p.m. till about 5 a.m.

[155. Several men agreed with the last witness as to their preference for the 24 hours, one saying that if he had boys of his own, 15 or 16 years old, he would choose the 24 hours for them, rather than the 12 hour-shifts in alternate weeks. H.W.L.]

156. *A workman in the paper-sorting room.*—The heat in many paper-making rooms is bad for young lads. I had to take a boy of mine away from a mill near here, where he was at the cutting machine. He was 15 years old. His appetite was constantly failing. He sometimes worked there as long as from 4 a.m. to 8 p.m., but it was the heat more than the hours of work that hurt him. He is at other work, and is quite well now.

Mr. G. Austin, Solesbridge Mill, Rickmansworth.

157. Most of the paper mills are now worked by steam, but mine here is all water power. In this district chiefly make newspapers. I think there is not much overtime. 8 a.m. to 5 p.m. are the usual hours, not only in my works, but hereabouts, for the women and girls, the rag sorters that is.

Those that make the paper, work 11 or 12 hours a day; that includes the dinner hour, for they take their meals at the machine. I do not drive my machine on an average more than 12 hours a day. In my mill there are only two boys under 13. They lay sheets. The youngest is 12 years old. He has been a year with me. He can read and write. My hands have all been to school, and most of them go to night school twice a week now. Children under 12 are scarcely ever employed in paper mills in this district. The women go wrong in other places I understand, sometimes, but mine are all respectable. Several have gone from my place into service, and have kept their situations. As I require but few I discharge the unsteady ones. I don't think the women ever work at night in these parts; if any do, it will be one or two helping the men at the machines. The night work in this neighbourhood is always done in shifts, each shift working 12 hours, from 6 to 6. That is where steam power is used.

The only difficulty of adopting the factory relay system for those under 13 is the distance of any school. The nearest day school to these works is three miles off.

They earn about 4*s.* a week on the average. I dare say they would come for half that rather than earn nothing, but it is doubtful.

We use, as a rule, only the house rags of the neighbourhood. In the last five years we have had one case of small pox, which some attributed to the rags; they were foreign.

Paper Mills.
Mr. H.W.Lord.
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158. At one large mill in the Eastern Counties I received, on my arrival, the following note:—"The proprietors of these works decline to comply with the request of the circular, which they consider unnecessary. The work people are well cared for, and the employment healthy."

Notwithstanding this, the son of the principal partner and the foreman conducted me over the whole of the works, and answered in the fullest way, for my private information, all questions put by me.

I regret that the circumstances under which I received their answers, and viewed the premises, preclude me from giving any further account of them; more particularly, seeing that not only did the hours of work appear to be moderate, and (except so far as the night work in alternate weeks may affect the machine and cutter boys) unobjectionable, but also the sanitary arrangements in these mills were in several respects very superior to most which I have seen.—H.W.L.

Lancashire.

LANCASHIRE.

April—July, 1863.

Messrs. James Wrigley and Sons, Bridge Hall Mills, Bury.

470 persons are employed here, more than half of whom are females. 15 girls and 9 boys are under 13, only two of them, one of each sex, are under 10; of those between 13 and 18 years old, 31 are males and 60 females, the adults are 168 females to 192 males.

The premises are of modern construction, spacious and well built; some of the paper-machine rooms were very warm; in one case the very height of the room seemed, by condensing the steam at the top, instead of suffering it to escape, to be less adapted than one of a lower pitch might be, to secure adequate ventilation. In the dusting and chopping rooms the dust was considerable, although most of the machines had fans, and were boxed in.

159. *Thos. Wrigley.*—The usual hours for women and most of the girls are from 6 a.m. to 6 p.m., with two hours for meals; they are often later than 6 p.m.: in the department where the clean sheets are sorted, and the older girls and women engaged, there could be no harm in their working occasionally till 8 p.m.; but where there is much dust that should not be.

Some of the younger girls are employed in sorting cotton waste from the mills: sorting generally, and all the preliminary work, such as cleaning, chopping, and dusting, is done by female labour; some kinds are much worse than others. Rag sorting, and the dusting, where the machines they call "devils" are working, are much more disagreeable than waste sorting, and still more so than the African grass is. A girl of 13 earns at waste sorting 4*s.* and 5*s.* a week; the rag waste sorters get 9*s.* and 10*s.* Theirs is all piece work, they very seldom stay later than 7 p.m.

Women who sort the paper in the sheets after it is made, stay not unfrequently till 8 p.m., and the "catching up" girl at the end of the machine may stay late sometimes; but we make a boy stay to catch up if we can, and send the girl away at 6, if it is known that the machine will work late.

Of the boys, some are bagging up the waste, others are "picker-scrapers" to the paper machine. Some over 14 are "back-tenters," they get 1*s.* 6*d.* and 2*s.* a day; the catchers get 8*d.* or 1*s.* a day.

As a rule we do not work through the night; some of the washing is done then, and the rag engines have to work later to supply pulp enough for the paper machines by day. In most other mills the grinding and making goes on night and day. Our beating engines work generally till 8 p.m., and sometimes later. The machine will on an average make paper in 10 hours of what the engine has taken 15 to grind.

If anything happens to delay the paper machine, such as a strap breaking or the like, those at that machine have to work later to make it up. This is necessary. Otherwise the man at the beating engine, which is continually supplying pulp to the reservoir of the paper machine "gets on the top of the other," as they say. The contents of that chest have to be worked down to about 18 inches of the bottom before the paper machine can stop; so if they break down for two or three hours in the day, they may have to go on till 8 or 9 at night.

The time they take also varies with the thickness of the paper to be made, for of course a thicker paper takes more pulp in the same time, and therefore empties the chest sooner.

On the other hand, the engine which supplies pulp for the paper machine must work up to 8 or 9 p.m., and sometimes later, or otherwise the repository would be empty when they wanted to begin to make paper in the morning.

They don't stop for meals in the machine room, but get paid overtime for the meal times, so that they have their 10 hours and two hours overtime every day. They have however opportunities of getting fresh air, going down the yard, and so on; and during their time for having their food are probably out of the room for the greater part of two hours; for so long as there is some competent person to mind the machine, we do not object to their being absent for a while. The others all stop for meals, the rag sorters, &c.; dinner is from 12 to 1. They have a kitchen of their own, and a room above to eat their meals in. I find the rooms and appurtenances, gas and coal; they pay the cooks,—there are two,—and provide their own food.

We could not manage so as to stop the machines for meal times; it would take at least half an hour to get the cylinders hot again, if we stopped in the machine room. Besides the delay and loss of time, there is a positive loss in waste of pulp and broken paper. Whenever, from any cause, as it is, a paper machine has to be stopped, all the pulp must be washed off the wire, and the wet sheet scraped off the roller, and the sheet upon the cylinders breaks; then in starting afresh the pulp has to be led by the hand on to the wet felt, and thence again to the dry felt and through the presses. Again, one uniform heat can be easily maintained, but is difficult to be got at once: if the cylinder is too hot, the paper snaps; if too cold, it is damp. We have 11 paper machines, and each machine has from six to eight cylinders; in other places each may have 10 or 12, and more; all the cylinders must be at exactly the same temperature before a perfect sheet can be made. At least a quarter of an hour is lost, and a corresponding quantity of paper spoiled every morning by each machine before they make a fair start. Even in the mere gathering up after a breakage, while the machine is going all the time, 30 or 40 feet will be destroyed. I am not able to give you any satisfactory estimate of the value in money of the loss which stoppage for meal times would involve; it would be very considerable.

They sometimes have accidents, get caught in putting the sheets round the cylinders after a breakage, or catch an arm in a strap.

We have a club on the works, to which I insist on every one of them subscribing, the men 2*d.*, the women 1*d.* per week. I give them 25*l.* a year and the fines except those for wilful damage.

If the proportion of younger hands is less here

than in the south, the only reason is that they have a greater supply of young ones there; the factories here take them as soon as they are able to work. I don't think the factories in this district can suffer from the neighbourhood of unregulated trades. It may also be that more children are required for folding in the south, we don't make fine writing-paper here.

So far as I am concerned, we could devise so as to let the young ones go at 6 p.m., if we were under restrictions; but as to the half-time system, I would rather pay 2*s.* extra for hands over 13, than have half-timers. I think that Government should not provide education, but should make education up to a certain point a necessary condition of all juvenile employment. I have advocated these views in a pamphlet which I addressed to Lord Stanley some years ago, and I am now as much as ever convinced that they are right.

I object to special legislation; there should be one sweeping measure: there is no reason why the factories should be under regulation and not the paper mills. Night work might be almost entirely avoided; it is a mere question of capital, of extra hands and additional machinery.

The cases, which you tell me have occurred on my works, of children staying till 12 at night, and all night, are in direct violation of my express orders to the foreman; they need never occur at all.

160. *Mary Wallworth.*—Was 12 last Christmas. Have been over two years here. I feed the willow; that is very dusty. I have been ill two or three times with it; bad on my chest. Have once stayed away from work for a week. Can't read. Have been sometimes to Sunday school.

161. *Sarah Ellen Ramsbottom,* (waste sorter.)—Am going 10. Haven't been here so long; don't know how long. Can read a bit. Jesus Christ was our Saviour; don't know what that means; don't know what the word Saviour means. Go to Sunday school.

162. *Edward Mitchell.*—Was 11 last back end (autumn). Am scavenger; sweep dust up. Can read. Used to go to day school once. Never heard of Liverpool. Don't know what is the chief town in England. Don't know where Scotland is.

163. *Sarah Hall.*—Am 12 years old. Have been here some time; more than a year. Am "catching." At dinner time some one else comes and catches for me; sometimes I have a quarter of an hour, and sometimes half an hour, and sometimes more. Used to work in rag chopping; that was very dusty. Once or twice worked then till 12 at night; am quite sure I did. Have stopped at catching till 9 p.m. once or twice a week; often till 7 p.m. We all come at 6 a.m.

164. *Thomas Wheeler.*—Am going 12. Have been here two years; have worked all day and all night three or four times. That was at this machine; was a picker-scraper: like this catching best, that is so wet.

165. *Harrison Mosley.*—Am going 10. Am a picker-scraper; use a wooden rake to get the dirt off the picker. Worked till 10 p.m. last night; have done so quite a dozen times since Christmas (4months). Am always very tired then.

166. *Samuel Mosley.*—Am 14. Have been three years here. Am catching sheets from the cutting machine. Stayed till 7 p.m. two or three times last week. Have stopped till 9 p.m. many times.

167. *Charles Mitchell.*—Am 13 years old. Scrape the picker. 9 p.m. is the latest I ever stayed. Left at $7\frac{1}{2}$ p.m. last night; at 8 or 9 the night before; stay till 9 two or three times a week. They won't let us work after 9 p.m. now; last night I worked till $7\frac{1}{2}$; was later the night before; don't know how late.

[168. Very few of these and the other children, from 10 to 14 years old, whom I examined could read properly; three or four of them made mistakes even in their letters as they spelt the words out; more than one could not read the word "Sunday" in large type.]

Messrs. H. and G. Coop, Heap Bridge, Bury.

86 persons are employed here; 37 of them are women and girls; 8 of the girls are under 13, and 12 more under 18; there are four boys under 13, and 11 between 13 and 18.

169. *Edward Barrington.*—As Mr. Coop is engaged, he wishes me to go round with you. I have been in the work ever since I was 12 years old, so can tell you something about it.

Our rag engines and paper machines work day and night, but there are only nine persons in each relay, six men and three boys; one of the boys is under 13. For all the rest the regular hours are 6 a.m. to 6 p.m., but that is at times exceeded; we worked for the first two months of this year till 8 p.m., but have not been later than 6 p.m. since*: the smaller ones get very tired by 8 o'clock. 25 of the women and girls are sorters, some of rags, but most—20 of them—of African grass, that is much less dusty; we have only lads and men at devilling. The rag-chopper makes a tremendous dust, none can stay more than a few months at a time at it. That is old bagging they are feeding in: that is always dusty. The boys' work at the back of the chopper, taking out the rags, is very dusty.

Our cutting is done by a separate machine; the sheets are brought up to this floor by a hoist. The women who sort the sheets keep rags on their hands to prevent the sharp edges from cutting them. The boys' fingers get nipped now and then, and broken sometimes; that is generally done in trying to pass the paper on between the cylinders after it has broken.

The machine hands never stop for meals, they sit down and watch the machine, and take it easier.

I don't think any part of the work is bad; none of ours stop away for illness. For the first three or four days after beginning they are generally poorly in the morning; that I think is more the coming to work before breakfast when they are young and not used to it: that soon goes off. The chlorine which is used after washing for the bleaching-up is only bad when they do it in a hurry, and so make it very strong. I remember being made ill for a week almost by getting into the smell of some when they were using it very strong. Sometimes the gas comes out of the chambers, and you can smell it half a mile off; it nearly chokes you; but that doesn't do any harm that I know; we always take our time about it, and so don't suffer.

Some of the youngest boys carry the half stuff to the engines, fill the skips with it, and wheel them off, that boy, Kay Howarth, is one. I believe he is correct in saying that he is not 10 years old, and has been two years here. He has 3*s.* a week. Some of the older boys have to count the sheets over; that is very nice work; they will get 7*s.* a week.

* Evidence taken in April.

Paper Mills.

Mr. H.W.Lord.

Lancashire.

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THE STANDISH PAPER MILLS.

The rooms here are clean and lofty; at the date of my visit the machine room was unfinished, but great care seemed to have been taken in building it, to ensure ample space and proper means of ventilation.

170. *Mr. Horrocks*, manager.—The work in paper mills is not necessarily unhealthy; but if the work goes on in places which are not properly contrived for it, it may be so. The rag sorters often have to work crowded together in dusty rooms, all stifled up. Sometimes you have 40 or 50 women together in one badly ventilated room. The machine rooms also are many of them badly built, and become far too hot. But the chlorine gas, which is used for bleaching, is the worst thing of all; it gets on the lungs and makes you spit blood; it gets over the whole works at times, where proper precautions are neglected. We have pipes in our bleaching chambers to carry the gas away. When the bleaching is done in a hurry it is used strong, and then is very bad; the lads and women would be just as likely in most mills to be exposed to it as the men, although they don't work in it.

Our hours are from 6 a.m. to 6 p.m. now: we used to work night and day; then we came down to 14 hours, 6 a.m. to 8 p.m.; and now we find we can generally do with 12 hours. We have about 70 persons employed here, one half of whom will live in the cottages on the premises, and the rest in the neighbouring villages. Some dine here, but they are not tied to hours, and work in their meal times if they please; most of those who live in our cottages always go home to their meals.

We have had no accidents for four or five years. I have heard of some bad ones in other mills. They chiefly occur through carelessly shifting a strap, or through being caught between the rollers in helping the sheets of paper through.

In mills where the men drink some will be off work, and so others stop late to do their work, and arrange it among themselves, so that the master shan't know; that is how long hours are often made.*

The children, especially those catching up, will have to stop late if the men at the machine do.

There would be one good thing if an Act passed to bring us under factory regulations; a bell would ring for all the times of beginning and leaving off work, meal times and all, so that every body would cease at the same hour. I don't know any reason why the half-time system should not apply to rag sorters and catchers under 13. We have very few of that age.

171. *Ellen Reid.*—Am 40 years old, sometimes pick straw, and sometimes work at straw-cutting machine; the dust of it does me no harm. I have been here six years, and have had better health here than I used to have when I was charing and doing house-work.

172. *Eliza Lee.*—Am 23. Have been at it for six years. Worked in cotton factory before, was reeler there. Prefer rag sorting here to that. It was so hot.

173. *Margaret* ——.—Am going on 17. Have worked here for two months cutting or picking straw. Work about twice a week at cutting; the dust does not make me cough. Was weaver in cotton mill for five years. Like this better; there is more air and more change.

174. *Eliza Hall.*—Am 21. Work at the rag-chopping machine. Have been 9 or 10 years here. Have worked now and then from 7 a.m. to 8 p.m., perhaps once a week, not more. Have not done so yet this year. Don't mind the dust much. Would rather be working here this summer day than in the hay-field; used to work in the fields, but like this best, the hours are not so long.

175. *Jane Huddison.*—Am 17 next week. Have been here six months. Have not been off work once from illness. Work at chopping machine; that is better than work in the fields.

176. *Mrs. Marsden.*—Am 20. Sort the paper now, used to sort rags, that was dusty. Was once ill for three days with the dust, it made me feel sick and cough.

177. *Isaiah Harston.*—Am going on 16. Was catching boy 18 months since; began that at about 14. Was skutcher (at the willow) before that. Have worked for three or four nights together in some weeks till 8 p.m.

178. *Martha Rosthern.*—Am going on 16. Have been three years here. Am paper catcher at the machine. Come at 6 or 7 a.m., and stay sometimes till 6 or 7, and sometimes later; have stayed till 8 or 8½ and 9 p.m. every night this week, that was at sorting after catching was over. Have come to work at 5 a.m. occasionally. That man generally whistles on me at 7 a.m. to call me to work.

[179. The man who had the management of the paper machine at which this girl was catching, explained to me that for the sorting she was paid extra, by the piece; and so she would come of her own accord, perhaps an hour before the machine began, or stay an hour or more after the engine had stopped, to earn some more by that means; but such extra work was in no sense compulsory.

180. One of the men whom Mr. Horrocks sent for, told me that in some paper mills where he had worked, the "vitriol" used in bleaching got on the lungs of the persons employed there, and made them cough and spit, and their nose run, and that some were frequently absent for one or two days at a time from the effects of it.]

181. *Mr. Rideout*, (the proprietor of the Standish and the Farnworth Mills, to whom I read over the preceding evidence,) informed me that pure chlorine gas was very generally used in Lancashire instead of chloride of lime, or of potash, the chief reason being that the salt, of which with manganese and sulphuric acid it it composed, was obtained at a less expense there than in most places. The exact amount of gas required for bleaching a given quantity of stuff is determined solely by the "rule of thumb," *i.e.*, the experience of the workman, and varies of course with the amount of colouring matter to be decomposed. In his opinion the bleaching stills should either be apart from the rest of the works, or be so arranged as to admit of steam being passed through them and carried off by pipes; the effect of that being to remove the surplus chlorine, by reason of its affinity for water, in the form of hydrochloric acid and oxygen.

With regard to accidents, he mentioned three as being within his own recollection, all more than four years ago; one, a case of a man whose foot had slipped while he was oiling part of the machinery which was in motion; the second, that of a girl who had only been a day on the works, and was caught as she helped her father at the straw-cutting machine; the third one where a boy, playing with another, put

* Mr. Rideout considered that such cases would now be very rare, and confined to places in which water power was used, and "butty" work the custom of the workmen.

his finger on the cog-wheel to show that he could do as much as the other; he did not draw it away in time, the finger was crushed, and erysipelas ensuing the boy died.

Fans had been adopted to remove the dust occasioned by the chopping machines, and with success; the mode being, not as in the cotton mills to lift it up through the roof, but to draw it down under the floor. He also considered that the shafting was safest if placed under the floor. He agreed with Mr. Horrocks (No. 170), as to the applicability of the half-time system, and fully recognized the importance of education; but wholly disapproved of legislative interference with reference to the hours of labour of adults of either sex.

[In answer to some further inquiries as to the hours of work and absence of night work, I subsequently received from Mr. Rideout a letter, enclosing a "report" from his manager to him on the subject. I subjoin copies of both.]

182. Letter from Mr. Rideout.

12, Wellington Street, Strand,
Nov. 2, 1864.

* * * *

The reason our machine does not work longer hours than those stated is that the rag engines, *i.e.* the *producers of the pulp*, are so proportioned to the wire surface of the paper machine that each runs equal times; for instance, if I ran the rag engines 24 hours, the machine would work 24 hours, or rather less, for I have so arranged the mill that, in case of need, the machine can overtake the rag engines; in other words, that the machine can consume a little more pulp that the rag engines can produce, and thus it always overtakes or keeps out of the way of the rag engines.

I am satisfied that there is no economy in NIGHT work.

P.S. It is necessary to tell you that the machine a Standish makes nothing but "news," and the production is very regular and constant. A machine upon miscellaneous papers cannot be timed with regularity.

183. REPORT ENCLOSED.

The beating mill works from 6 a.m. to 8 p.m. for 5 days, and from 6 to 3½ on Saturdays, without stoppage. The white machine works from 6 to 6 for 5 days, and from 6 to 3½ on Saturdays. The brown machine works from 7 to 5 for 5 days, and from 7 to 3½ on Saturdays. They both run without any stoppage.

The stewers and bleachers work from 6.30 to 5 for 5 days, and from 6½ to 3½ on Saturdays, and have 1½ hours each day for meal times. The scutchers and sorters work from 7 to 5 for 5 days, and from 7 to 4 on Saturdays, and have 1½ hours each day for meal times.

MR. T. B. PARKE, WITHNELLFOLD, CHORLEY (AUG. 1863).

102 males and 58 females are employed here: 10 boys and 8 girls are under 13 years old; the youngest boy is 9 years and 6 months old; the youngest girl is 10; the rest are all over 11. Between 13 and 18 there are 13 and 14 females.

184. *Mr. T. B. Parke.*—I make goods of various description, and my orders are very irregular and often pressing. The most pressing perhaps are those from Her Majesty's Stationery Office. I cannot work to stock, for until I have the orders, I don't know what class of paper will be wanted.

Six months ago I had only about eight under 13; the rest have been taken on since to work at the glazing machines, which are new; in a year or two they also will be over 13; I shall not take on younger ones, for they will stay with me doing the same work they do now, for they are only learning.

The work at the paper machine is divided into night and day shifts of 12 hours each. All but one employed there are adults.

The girls who are engaged in sorting the paper occasionally work late for two or three days. They are over 13. Those whom I have under 13 do not stay half a dozen times a year after the usual hours. Sunday work I never allow on any pretence; that can always be avoided: I would not allow it to complete an order for any person.

The cutting machines, those for cutting the paper, are separate from the paper-making machines; that is better for the children who are at them; for besides being in a cooler atmosphere there is less overtime, since the cutting machine cuts several reels at a time, and so gains considerably on the making machine.

I have spent a good deal of money and pains on my schools, and insist upon the parents sending their children there before they are taken into the mill. I could not work the half-time system, because the population in a country district as this is, is too scanty.

I could not work my mill under the restrictions provided by the Factory Act.

The Bleach Works Act will not do for paper makers, because the work is so irregular, and can only be properly explained by an inspection of the mill.

I consider that I do individually act virtually in accordance with the intention of that Act, and it is just that irregularity which exists, and must necessarily continue in the manufacture of paper, that makes all the difference between working the hands according to judgment and principle and being *compelled* to do so in *detail by law.*

185. *Mr. Entwistle*, manager.—The younger ones at the glazing machines or calenders merely put the sheets of paper between the plates, which some a little older lift for that purpose. They earn from 4*s.* to 5*s.* a week in their day of 10 hours, from 6 a.m. to 6 p.m., with 2 hours for meals. There is a man to lift the "wad" of plates and sheets, and put them in the calender.

The "cutters" get 3*s.* at first, and rise to 4*s.* and 5*s.*; they are girls. After about two or three years they are put to sorting paper, for which the wage is more. The shavings have to be taken out of the hollow below the machine two or three times a day; they get a rest of 10 minutes then. They will probably work for 12 or 13 hours for two or three days next week, that includes meal hours and play. They usually work 10 or 11 hours a day. They often play when they are not wanted for a little while. The machine works slow.

Last night the children at the calenders were sent home at 7, and some of the older ones, between 14 and 18, took their places and worked till 10. That does not occur for more than 3 or 4 nights in a year. They had been at other work during the day. The work will not be so late to-night, because it is Saturday.

The rag cutters and sorters are never pressed; they always take it easily. The married women often stop at home to wash on Saturday. We generally stop on that day at 2 p.m. in that department, and at 4 p.m. elsewhere.

Our holidays are Christmas day, New Year's day, and Good Friday, and about a week in July. The time is not fetched up; and those who earn weekly wages have them paid all the same.

The waste pickers can get 10*s.* and 12*s.* a week; they are women or older girls. Just now we are obliged to use rags; they are far more dusty than the "shoddy," which we have in ordinary times, the cotton waste, that is, from the mills.

Two men were killed here, within two months of one another, this year. There had not been any serious accident for 20 years before. They were not caught in any wheels or gear so far as we know. Two lads of 18 have had the ends of their fingers nipped off by the bowls of the machine; and one lad lost two fingers at the rag-chopper. They were not accidents which fencing would have prevented.

Paper Mills.
Mr. H.W.Lord.
Lancashire.
O.

186. I also visited the mills of Messrs. Mangnall at Bolton, and Messrs. Potter at Darwen. There were very few at either under 18 years of age.

Letters from Clergymen, Medical Men, Employers, &c.

Letters from the Rev. ———.

187.

Dear Sir, Oct. 3, 1864.

* * * The children leave school much earlier than they ought, so anxious are their parents to get them employment at the mills, or farms, or at embroidery; this is bad for the children physically, farm work excepted; but the chief injury arises from the night work in the mills, where many are kept on 24 hours at a time (and the same off); the effect of this night work is grievous in some instances, and it often prevents attendance at the night school.

We have had large night schools, and though the hours have been from 7 to 9 p.m., I do not think it tells against their health materially. The members of our night school and choral club look generally the most healthy in the parish; after their long hours of labour, it is a marvel to see the spirit and delight with which they come, and when it is time to close, they are very loath to leave. * * * Believe me,

Yours faithfully,

H. W. Lord, Esq. ———

188.

Dear Sir, Oct. 14, 1864.

There is no doubt great difficulty in getting at the truth. It is not only that some do not like to confess their real feelings, but from habit, and being accustomed to a certain work, men do not see that it is noxious.

I have never specially considered the subject, for I have more than I can get through in my own immediate province; but occasionally we have seen a lad looking very badly, and, on inquiring, his mother has said, "Oh, it is the night work," or "the journée" 24-hour work. One lad living close by was so a few weeks ago, and his work was altered for a time, and he is now much better, but I doubt whether he will ever get sufficiently used to it to stand it; it would at any rate be better, if they were not put to such work till older.

I have been looking at our list for the night school, and almost all are shoemakers, some other trades and farmer's boys, but very few from the mills.

I am, dear sir, yours faithfully,

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189. Letter from the Rev. W. P. Woolcombe.

Loudwater Parsonage, near High Wycombe,

Sir, Oct. 5, 1864.

In reply to your letter, I beg to say, with reference to the Loudwater schools, that the number of children who attend the day school is between 60 and 70, and their ages vary from 2 to 10. The number of those who attend the Sunday school is about 100, and their ages vary from 5 to 15 and 16. With regard to the condition of the juvenile operatives, most of them can read and write, and many attend the Sunday school. Hoping this information may be of service to you,

I am, sir, yours faithfully,

H. W. Lord, Esq. W. P. Woolcombe.

The two following letters were written to me by a gentleman, who has had great opportunities for forming an opinion upon the matter, on which he writes.

I regret that reasons exist which, in his judgment, render it advisable that his name should not appear.

190.

Dear Sir, Sept., 1864.

I am glad that parliamentary inquiry has been directed to the results, social and moral, to the children of their employment in paper mills, and it will be my satisfaction, as well as my duty, in every way in my power, to help in such inquiry.

The facilities of profitable employment offered by the paper mills in this parish do induce children of both sexes to leave school long before their imperfect education can be considered in any way complete, viz., in almost every instance before the age of 13, while 12 is not a common age in either school, as the employment of the older children in the mills finds other employment, not in the mills, for children of 12 and thereabout.

This employment no doubt enables children to earn comparatively large wages, and thus, at a very early age, to be helps instead of burdens to their parents; their association also with intelligent and skilled mechanics sharpens their faculties, and they undoubtedly acquire very early habits of application and industry. I doubt, however, sometimes, if the amount of work thus done is not beyond the average strength of their years, and so a bad economy of labour.

But as to their moral condition, as the result of this employment, there is much that is very painful to witness. The children, immediately that they pass from the school to the mill, throw over all kinds of recognition of their teachers, and of their previous training, and assume an absolutely independent tone, independent of parental, as well of all other authority. At once discontinuing attendance (except in very rare instances, where some personal pressure is brought to bear) at any place of worship, the children become rude and defiant in manner, and strangely coarse and lewd in language, and very soon fall into the gulf of indecencies and immoralities, of which it is difficult to believe their young years capable.

The well-conducted mothers, though themselves employed in the mills, are very unwilling that their own children should follow such employment.

But the self-indulgent and often luxurious habits of the skilled mechanic's class make the addition of the child's hardly earned wage a *quasi* necessity, though the results are, in far too many cases, just such as I describe.

I add in fairness that the occupiers of the ——— mills are, I believe, sincerely desirous that a tone of decency and respectability should prevail throughout the works. I wish with all my heart their good wishes were followed with adequate results.

I regret that I must ask that the statements, which it is thus my duty to make, may not be made public in their present form unnecessarily, nor that my name be attached to them, unless where their due authentication on the "public service" may require.

191.

Dear Sir,

I thank you for your full and frank letter of October. I have carefully considered the courses you therein suggest as to the publication or non-publication of the evidence, which I thought it my duty to give, and, though I have very carefully verified its accuracy, and satisfied myself of the exact correctness of its statements, I have still come to the conclusion that it will be wisest and best for me to ask you to consider that evidence as entirely *confidential*, and therefore, if published at all, to be pub-

lished with your name, not mine, as information gained by you, whose author's name you are not at liberty to divulge.

Believe me, with much regret that peculiar local conditions make such request necessary.

Faithfully yours,

H. W. Lord, Esq.

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192. Letter from E. Moore, Esq., Surgeon.

Sir, Dartford, Sept. 21, 1864.

I find that employment in "the rags" has been assigned as the cause of consumption, asthma, and gastric disorder, which varies from slight loss of appetite to the more obstinate cases of severe dyspepsia.

The heat of the "machine room" I have heard persons complain of, but I have not known any injurious effects produced thereby.

Occasionally boys come to me with the tops of their fingers cut off, but they usually attribute the accident to their own carelessness, so I presume that every precaution in the way of "fencing" the machinery is adopted.

I find many cases of not, perhaps, downright chlorosis among young women, but that pale anæmic condition, which is owing to a deficiency of red particles in the blood, and is relieved by steel.

I have seen several cases of imperfect development of the system, two of the best marked being sisters. Here the bones were disposed to be rickety, the breasts not developed, and there was such a juvenile appearance that I took them to be about 15 years of age, when they were about 25.

My acquaintance with these cases is very short, as I have been only about ten years in this neighbourhood. * * * *

I am, &c.

H. W. Lord, Esq. Ebenezer Moore.

Paper Mills.

Mr. H.W.Lord.

Lancashire.

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Extract from Letter from H. L. Pomfret, Esq., Surgeon, Hollingworth, near Manchester.

193. I have no way of arriving at the number of accidents in paper mills, but they will be very similar both in nature and number to those in print works, arising pretty much from the same cause,—exposed mill gearing and dangerous machinery. In my opinion both ought to be reported as in factories, that proper fencing may be secured. It is not very long since I assisted at the amputation of a child's leg, who had been caught by a shaft that the child had to stride over in taking its father's dinner to a paper mill.

On reflection I should say that there is more dangerous machinery in paper mills than in print works for the number of hands employed.

I have frequently, as the certifying surgeon for the district, had to refuse children as "too young*" for the factories, who I have been told had been working for months in the paper works, and would no doubt return there.

194. Extract from Letter from Mr. James Cropper, Burnside Mills, Kendal.

The number of children under 14 employed (in Burnside Mills) is not large, perhaps 8 to 12, and with them I have frequently adopted a half-time system, employing them alternate weeks, and giving them schooling meanwhile. I should think this plan might be adopted at most paper mills easily. The work here is 10½ hours a day. The night work is not regular ; but usually two boys work all night in turn, and sometimes a third. For my own part I should be glad to be under the Factory Act, because it would make it easy to carry out rules which now, by the carelessness of the parents and the mill foremen, are often broken.

There are other young persons from 14 to 18 years of age employed, both boys and girls : the boys as apprentices, but very few in number, the girls as paper sorters or rag cutters ; these last work only during the day, and never more than 12 hours, usually 10½ ; their number varies from 12 to 20.

I think you might with advantage take paper works into the category of trades to be regulated by law.

195. Letter from Nath. Grace & Co., Paper-makers.

Scotswood, Newcastle-on-Tyne,

Sir, 14th Sept. 1864.

In answer to your note respecting the employment of children and young persons in the paper-making trade, we beg to state that in brown paper mills, such as ours, the numbers are not large, indeed we may say very limited ; we seldom employ any under 14 years of age, they are too young for our purposes. We have now from 10 to 12 girls between 14 and 21 years of age, and we believe that we have more than any other mill in the district. Of boys we have six to eight between the same ages ; some of these are learning the trade.

We may further state for your information that paper mills in general are worked night and day, double-shift as it is termed, but the hands required to keep the paper making machinery in operation during the night are very few, the principal part of the workpeople being employed during the day only. In our case, out of nearly 70, only seven are engaged at night, three of these being youths ; and this proportion will apply to other mills of a similar description. Of the white mills we are not in a position to give any account.

Our trade is not by any means an unhealthy nor yet a dangerous one. Accidents with us are very rare, and generally arise from want of ordinary care.

Whenever a vacancy occurs we have generally a number of applicants, as young persons, especially females, are constantly soliciting for employment.

In any changes that may be in contemplation we hope the paper trade may not again be singled out for proscription, as it is already sufficiently doomed by recent unfair legislation, and we have enough to do to exist against foreign competition. The number of young persons employed, as it is not an extensive trade, can form but a very small proportion to those employed in the general trades, such as the iron trade, glass trade, pottery ware, mining trade, &c, &c., any one of which, we feel assured, employs far more young persons than the paper trade, the total number of persons employed in it being estimated at only 100,000.

We venture to hope that if further legislation on the subject be considered necessary, instead of partial and limited measures only being introduced, provision will be made to embrace all trades in one common comprehensive scheme.

We are, Sir,

Yours very respectfully,

P. Selby, Esq. Nath. Grace & Co.

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* *i. e.*, for full-timers.—H. W. L.

Paper Mills.

Mr. H.W.Lord.

Lancashire.

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196. Letter from Alex. Cowan and Sons, Paper-makers.

Valleyfield Mills, Edinburgh,
10th Sept. 1864.

Sir,

We have received from our house in Edinburgh your favour of the 7th inst., along with your circular to employers dated April 1862.

We employ at our works above 500 hands, of whom about two-thirds are females; many of both sexes are young, but scarcely any can be designated as children, for the following are the rules on which we have acted for the last 25 years or more:—

1. All applicants for work must have completed 13 years of age and be of good character.
2. All young persons must, prior to admission, be well versed in reading, writing, and arithmetic, and in the case of girls, in sewing.
3. All boys must till they are 21 years of age attend an evening class provided for them at our expense for three months each winter. Girls may attend a similar class, but it is not compulsory on them.

Yours faithfully,
Alex. Cowan and Sons,
Paper-makers.

Prideaux Selby, Esq.

P.S.—We may add that, with a view to prevent the neglect of children in their homes, we do not employ mothers of young children in our works, unless in the case of widows or women deserted by their husbands or having hubands unable to earn a livelihood.

On certain PAPER MILLS in DEVONSHIRE, SOMERSETSHIRE, and near LEEDS, YORKSHIRE.

To Her Majesty's Commissioners.

Gentlemen,

On certain Paper Mills in Devonshire, Somersetshire, and near Leeds, Yorkshire.

Mr.F.D.Longe.

P.

1. I have visited the large paper manufactories at Ivy Bridge and Hele in Devonshire, and at Bitton, near Bristol, and a few others at Leeds, and beg to forward the evidence I have taken at these places. As I believe the paper trade has been the subject of a more general inquiry on the part of another Assistant-Commissioner, I shall only make a few observations with reference to the evidence I have obtained.

2. The principal class of persons employed in the larger mills which I visited are women and girls. In both the mills which I visited in Devonshire, there were about 150 women and girls employed, part of them in rag-cutting, and the others in glazing, calendering, and sorting the paper when made. Out of 72 calenderers employed by Messrs. Somerville at Bitton, near Bristol, 50 were stated to be under 15 years of age. (Evid. 12.) The girls employed in all these factories in each department begin at about 13 or 14. I found very few under that age. The rag-cutting is very dusty work, but the rooms I visited were large and open. This work is only done by daylight.

3. The glazing and sorting is a clean and healthy employment. The calendering rooms in the mills I visited at Leeds were very hot. The hours of work in these rooms are generally confined to between 6 a.m and 6 p.m.; but these hours are in some cases liable to be greatly exceeded when the ordinary system of work has been disarranged through accidents to the machinery. (Evid. 17.)

4. The class of workers whose employment seems to call most for consideration in this trade are the boys who take the paper from the cutting machines. There were altogether about 80 young boys between nine and 13 employed at this work in the mills I visited. The peculiar character of their work is the incessant attention that is required during the whole time they are working. They sit at the end of their machine, which is incessantly throwing out sheets of paper, which have to be caught up by the boys and laid in order. The machine does not permit a moment's relaxation from this monotonous work so long as it is in proper operation. The paper machines are liable to be stopped sometimes, but their rests are only exceptional.

The "paper-layers," or cutters, work in relays by day and night. There are two or three regular boys to each machine, with another boy employed near by, ready to relieve them for short periods at dinner or breakfast time. One boy stated that he only stopped five minutes for breakfast and dinner. (Evid. 2.) There seems to be no regular time for their meals. The machine is never stopped except when something goes wrong.

5. At the Hele paper mills in Devonshire, Mr. C. Collins has for some time carried out a system of compulsory schooling with all the younger hands in his employ who are unable to read, write, and cypher. He requires such children to attend school for one hour every day, from 5.30 to 6.30. Half this hour is out of their regular time of work. There were eight boys and 30 girls attending his school on account of this rule when I visited his works. Mr. Collins spoke strongly of the good effects this system of education had on the general habits and behaviour of the hands he employed. (Evid. 6.)

I am, &c.

Francis D. Longe.

EVIDENCE.

Messrs. Allen & Sons, Paper Manufacturers, Ivy Bridge, Devon.

1. *Mr. John Allen.*—We employ between 300 and 400 hands altogether, and about half of them are women and girls. There are three branches of work in which the women and girls are employed, (1) rag cutting ; (2) glazing paper or calendering ; (3) sorting. In the rag-cutting rooms there would be a few under 18 years of age, but none under 13. In all three departments the girls are nearly all above 15. The worst employment in the whole trade is dusting the rags previous to their being put into the boiler. Only one woman is employed at this work. There are seven or eight women who take this work by turns. The men and the boys are employed, (1) in boiling the rags ; (2) in washing and bleaching ; (3) in attending the paper-making machines. The youngest boys are employed in laying the sheets as they come out from the cutter. The machines are kept going night and day. It would be impossible to make the machines pay at all if they were only worked in the day. We have two sets always employed on each machine. The rag-cutting and sorting paper is only done by day-light. The glazers work from 6 to 6. We never worked a whole week to 8. On Saturdays all the women leave at 4 o'clock. The machines go on to 11 on Saturday night, and begin again at 12 on Sunday night. All the hands, except those employed at the machines, have a regular hour for dinner, and half an hour for breakfast. Nearly all leave for meals.

Machine Room.

2. *William Prowse.*—I shall be 12 next week. I have worked here not quite a year. I lay paper. I work from 12 to 12. I generally change at 12 o'clock. I work from 12 o'clock at night in one week, and from 12 o'clock in the day he next week. At the other machine they work from 8 to 8. The machine sometimes goes on the whole day without stopping. There are two other boys besides me. We are all at work sometimes. The machine sometimes stops an hour or two when the men are altering it. When the machine is going on, we generally stop about five minutes for breakfast, and about five minutes for dinner. There is no regular time for meals. There is another boy to take my place when I stop for meals. I get 4*s.* 6*d.* a week—the master pays me. I have been to school a little while. I can read the spelling book. I was about 12 months at school. I go to Sunday school nearly every Sunday. I have three sisters and two brothers.

3. *Thomas Hussey.*—I am 14 next May. I have been one year at work. I jog. I come at 8 o'clock. I go away at 8 at night. I get my dinner at about half-past 12. I get my dinner here. I generally take about a quarter of an hour for dinner. I sometimes lay paper for the other boys. I lay for them when they get their dinner and tea. I give half an hour for each boy at dinner time, and 20 minutes at tea time. I laid paper for a month. I get 9*d.* a day for jogging. Before I came here I went to school. I was three or four months at school. I can't read. I go to Sunday school now every Sunday. On Saturday, when I am on the day term, I come at 8 o'clock in the morning, and leave at 12 ; and I come again at 12 o'clock on Sunday night, and leave at 8 o'clock on Monday morning.

4. *John Lowther.*—I am going 7. I don't know how old I am. I think I am going 7. (He was over 14.) I lay paper. I begin at 8. I shall give over at 8. I stopped half an hour for dinner. I always stop half an hour for dinner. I generally stop 10 minutes for tea. The machine has gone on all day to day without stopping. Yesterday I stopped from 11 to 12. I get 9*d.* a day. I don't know how much I get a week. I take my money. Before I come I drove an engine. I was a year at that work. Before that I went to school. I was only one week at school. I can't read.

5. *Henry Hussey.*—I shall be 10 next May. I have worked here about four months. When I work at night I come at 8, and leave at 8 in the morning. I stop about 10 minutes for supper, or a quarter of an hour. I only stop once during the night. I work to eight o'clock. I can't read. I have been three or four years at school. I get 9*d.* a day.

At Mr. C. R. Collins' Hele Paper Works, Collumpton, Devon.

6. *Mr. C. Collins.*—I employ about 250 hands, of them 80 are men and boys, and the rest women and girls. Nearly all the men and boys work in shifts of 12 hours, to from 6 a.m. to 6 p.m. No females are employed at nights. The youngest girls are employed at cutting rags. There are very few females under 15 employed at that work ; there may be some as low as 14. The younger boys are principally employed at the cutting machines. The youngest boy in my employ is 11 years old. He has just begun. There is always an extra boy to take the place of one of the cutters at their meal times. The cutter may take half an hour or three quarters of an hour for meals. I never allow any boy to be employed in the works unless either they can read and write and cypher, or go to school an hour every day. There are now about eight boys and 30 girls going to school every day on account of that rule. I allow them half an hour out of their regular hours of work ; they go to school every day at half-past 5 p.m., and must remain an hour at school. For this I charge them 1*d.* a week. I have carried out this rule for six years, and find no inconvenience attending it. It decidedly has a very good effect on the general character of my hands when they grow up. I don't allow any workpeople's own children to come at all until they can read and write.

7. *Richard Squire.*—I was 10 on the 28th of last July. I have worked here three months. I lay paper. I work on night and day shifts. When I work on the day shift, I come at 6 in the morning. I go away at 5 o'clock. I stop half an hour for breakfast, and half an hour for dinner. I get my tea at home. The machine stops nearly every day about half an hour or an hour. I may go a whole day without stopping. I can read and write, and know arithmetic. I was six or seven years at school. Six times seven are 42. There are 100*s.* in 5*l.* I read the Testament and little books at home.

8. *William Woolley.*—I am 12. I have worked here three years. When I came I had to go to school. I have to go to school now. I go at five o'clock at night. I stop an hour at school. I go every night except Fridays and Saturdays. I am learning to read and write. I can read and write well enough to be let off school now. There are three other boys who go with me. I get 8*d.* a day. On Saturday I work to half-past 11 at night. I lay paper.

9. *John Hogg.*—I was 14 last July. I have worked here about 16 months. I can read and write. I go to school an hour when I work in the day. When I work at night, I come at 5 o'clock. I get up at 4 o'clock. I go to bed at 9 o'clock in the morning. Sometimes I go to school on Sundays.

10. *Thomas Thorne.*—I am 16 to-day. I attend to

On certain Paper Mills in Devonshire, Somersetshire, and near Leeds, Yorkshire.

Mr. F. D. Longe.

P.

the machine. I have been at this work two year. I work on day and night shifts. I come at 6, and I go away at 6. There is always another shift comes on at 6 o'clock. When I first came I laid at the cutters. I was two years there. I could read and write when I came. I had to go to school for an hour at night. I don't go now. I used to leave at 5 when I went to school. Now I work to 6.

11. *Thomas Bowden*—I am 14 next month. I assist at the engines. I have worked here going on for four years. There are two shifts at this work. When I work in the day, I come at 6. I stop three quarters of an hour for breakfast and dinner. At night, I stop from 9 to half-past 9. I stop again at 2 o'clock for half an hour. I never stayed away but once since I have been here. I never catch cold. I can read and write. I go to Sunday school now. I do not go to school on week days.

Messrs. Somerville & Sons, Bilton, near Bristol.

12. *Mr. W. Somerville.*—We have two machines at work, one only doing the night just now. We have not hitherto worked more than one night and day. The only hands employed in the night are the engine and machine men, and the boys employed at catching the paper from the cutter. The rag-cutting is only done by daylight. The glazers only work from 6 to 6, never after that. We have about 72 calenderers, men and women. 50 of them would be under 15; none of them are under 12. They are generally about 14 years old. We have three under 13.

13. *Annie Jones.*—I was 12 last month. I have worked here six months. I work in the calendering room. I come at 6. I go away at 6. I never worked after 6. I go away to breakfast at 8½. I come back at 9. I go away at 1 for dinner and come back at 2. We are allowed at ten minutes at 11 and at 4 o'clock to rest, or run out. Before I came I went to school. I can't read very well. I was reading the Bible when I left. I was at school, since I was four years old.

14. *Samuel Lindley.*—I was 14 last March. I work at the machine. I only began there last Saturday. Before that I took up paper. I was two years at that. I worked from 6 to 6. I come at 6 in the evening and leave at 6 in the morning when I work at night. I keep the same hours now. There are four boys working here. Three at a time and one waiting. I get my breakfast at 8½. I get it here. I get my dinner here too. I have an hour from 1 to 2 for dinner. I always stop an hour. The machine does not stop. Before I come here I went to school 2 years. I can read the Bible and Testament, and third class-book. I get 5*s.* a week. I got 3*s.* 6*d.* when I looked up paper.

15. *Edwin Jeffries.*—I am going 12. I have worked here four months. I catch paper. I work on both turns. I come at 6 at night. I have half an hour or an hour for supper. The other boy takes my place. I get my supper about 9 o'clock. I don't stop again during the night. I was at school before I came here. I can read at Sunday school.

At Messrs. Stocks & Sons' Britannia Paper Mills, Leeds.

16. *Mr. John Stocks.*—We have three little girls under 13 years of age, employed as paper cutters, and one or two little boys in the works. We have no lads employed in the rag-cutting room. The men who cut the rags carry them to the boilers.

Calendering room.

17. *Sarah Benton.*—I have worked here five years. I began at the cutter. I now calender paper. I come at 6, and leave at 6 at night. I have worked twice through the night; one time I worked through the following day too. At that time the engine was out of repair. We have been working to 7 from a week before Christmas. We generally begin in this room at 6½. We are paid by the piece. We get more money when we work later. We breakfast at 8. The machine never stops for breakfast. We generally stop about half an hour. We always stop an hour for dinner at 1, and half an hour at 4 for tea.

18. *Ruth Naylor*, paper cutter.—I catch paper. I am going 12. I get 3*s.* 7*d.* a week. I begin to work at 6½. I go away at 6. On Saturdays I go away at 4. I have worked to 7; I never worked to 8. I have worked to 7 for three weeks, every night. I get 7*d.* a week extra. I worked at Roberts' at making paper bags. There were 20 little girls there. About three were smaller than me. I got 3*s.* a week wages then. All had regular wages. It was a nice room. We had to work. We stood while we worked. We got tired of standing. This is easier work here. We havn't got to stand. (Can read a little.)

19. *Ambrose Martin*, foreman.—I have been in a paper manufactory either as a paper maker or a manager for 30 years. I consider it a very healthy trade. I have never known girls to suffer from the heat of the calendering room. They generally marry when they leave us, and I know now several healthy women who were calenderers.

20. *Sarah Ann Foxcroft*, paper bag maker.—I used to work at Roberts'. I was 11 when I first went. We worked there regularly from 6 to 7. I was the youngest there when I first went. I know that there are several now of about 10 and 11 years of age. I do not know that there are any under 10. The girls there have weekly wages, and the women keep them up to their work. I always go home to breakfast, dinner, and tea, when I work to 7. I both sit and stand as I work. Our wages are 7*s.* or 7*s.* 6*d.* per week.

REPORT upon the GLASS MANUFACTURE.— By Mr. J. E. WHITE.

To Her Majesty's Commissioners.

Gentlemen,

The Glass Manufacture.

Mr. J. E. White.

Q.

1. The glass manufacture of the United Kingdom is one of great importance, not only in its commercial value, but also as regards the number of persons employed in it, and the circumstances of the employment. It has, as represented, very largely increased since the time of the inquiry under the former Children's Employment Commission. One of the chief causes to which this result is attributed is the repeal of the duties which pressed upon the manufacture, and some of which interfered much even with the mode of conducting it. The removal of such restrictions naturally led to important improvements and cheaper and increased production. But the manufacture, though passing under one simple name, is so varied in character that it has been influenced by a variety of causes in its different parts.

Importance and growth of the manufacture.

2. I should remark here at the outset that though I was directed by you to make an inquiry into the glass manufacture of the United Kingdom generally, this was subject to the important exception of Lancashire, the glass works in which fell under the local inquiry of another of the Assistant Commissioners, and for a like reason I excepted a few of the works in Yorkshire.

Extent of inquiry.

3. To give any clear idea of the manufacture as a whole, it will be necessary to treat of some of the chief parts or divisions of it separately. It comprises four main branches, viz., (1) plate glass, (2) crown and sheet glass, (3) flint glass, (4) bottle glass; with some further varieties or subdivisions. Not only do the kinds of glass, but also the nature and system of employment to which they give occasion, vary greatly, and they will in several cases require separate notice, as much as if they were entirely distinct manufactures.

Four main branches.

4. Plate glass is well known as a superior kind used for large smooth surfaces, as windows and mirrors, but a rougher kind is used also for some other purposes. It is made by casting, the metal being poured out from the pots on the surface of a table, and there rolled out flat by machinery.

Plate glass.

5. Crown and sheet glass are the kinds in common use for window glass. Both are made by blowing and manual labour. There is no essential difference in the nature of the process. Crown glass is blown in a bulb shape, which is opened and spread out by whirling into a large flat disc; all done by the glass blowers at the time of making. Sheet glass is blown in a longer shape, which is drawn out by the weight of the glass while swung in a pit beneath the glass blower till it becomes a long hollow cylinder. This, when cold, is slit up from end to end with a diamond, and again heated and flattened out in a kiln. The rectangular shape thus obtained gives sheet glass a great advantage over the crown glass, which, being circular, and unavoidably having a knob in the middle, where it was attached to the glass blower's iron, will not cut up into such large panes, or with so little waste. The sheet glass blower's iron leaves no mark, the part to which it was attached being one of the ends which is cut off.

Crown and sheet glass.

6. Flint glass is the kind used, not for mere flat surfaces, as plate, crown, and sheet glass are, but for useful or ornamental articles of all kinds, in which, as a rule, purity of substance and elegance of form, requiring often highly finished workmanship, are sought for, such as table glass, lamps, &c. Formerly it was made only by blowing and manual work, but of late a less costly kind, called "pressed" glass, made with the help of machinery, has come into great and increasing use. Flint glass also includes a great variety of small miscellaneous articles of inferior kinds, such as medical and perfumery glass, &c. Moulds are also used for blowing some of this glass in. Some medical glass is made in dwelling houses with gas and a blow-pipe.

Flint glass.

7. Bottle glass consists of common wine, beer, and other bottles and vessels of almost all kinds and sizes, *e.g.*, from the smallest pickle bottle up to large jars holding several gallons, such as are made chiefly for use, with little or secondary regard to appearance, and therefore of coarser material and rougher workmanship. The bottles are made by blowing in moulds. The "black" or dark bottle was the kind chiefly used for common purposes, but common bottles are now made also pale or tinted with different colours as well as black. Some kinds of bottle glass work differ little from inferior flint glass making, and in some cases the two businesses are carried on together.

Bottle glass.

8. The so-called manufacture of stained and ornamented glass for windows and other pictorial designs is not a distinct and independent kind of glass making, but rather an art employed in finishing and making up glass coming under the former heads. The business is carried on chiefly by manufacturers who do not "make" glass at all, but get it from those who do. Colour is added in a variety of ways, as by means of a solution, or an enamel, or paints applied to the surface and burned in.

Stained glass.

9. Now, however, glass of a given tint can be made in the crucible or pot in just the same way as common uncoloured glass, thus having the colour inherent in its own substance. This is regarded as a great improvement on staining, as securing permanent and brilliant colour, and indeed the excellence of the old glass is attributed to its having been made in this way, though the art was lost till lately. Further colour or shading may require to be added on the surface in parts, as described above, in order to form a given design. When what colouring is needed is completed, the separate pieces of glass are fitted together, as the design requires, by framing or glazing.

10. It is found that the uneven surfaces obtained by the old and less perfect manner of glass making are better suited to give richness of colour than the improved modes now in use for common glass. Hence some of the best stained window glass is now made in the original manner, and from this cause in one manufactory I have seen flint glass blowers employed, as they are when required, in making window glass, as the glass, though made in much the same manner as cylinders of glass are by sheet glass blowers, is of small size, and requires a labour more resembling that of flint glass blowers. This supplies a connecting link between what are now usually carried on as two entirely distinct trades.

11. Painting or enamelling window glass, especially in its simpler forms for producing semi-opaque or patterned windows for passages, &c., is in some cases carried on in departments of ordinary glass works.

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Mosaic. Miscellaneous glass trades.

12. A new kind of art, in which opaque coloured glass is used to form designs by inlaying, as mosaic, or to form a basis for indestructible frescoes, has also been introduced, but not on a scale to require further notice.

13. A few other miscellaneous kinds of glass work of the same nature, or consisting of embossing glass by eating off a coloured surface with acid, so as to form patterns or words, or bending window glass into curves, a work of the same nature as that performed in the flattening kilns in sheet glass works, are also carried on upon a small scale in London. The grinding of watch and optical glass, glass buttons and ornaments, &c., are also branches of glass work akin to flint glass cutting.

Glass "making" only a part of the manufacture.

14. Another kind of division of the manufacture, or rather a cross division, will have to be made more fully hereafter in treating of the nature of the employment, but it is convenient to refer to it here. With a considerable quantity of glass the "making," as it is called, or the work done in a glass house, is only one portion of the manufacture, just as in another manufacture already reported on, viz., Lace, a great amount of labour of an entirely different kind is required for "finishing" the lace after it is what is called "made" on the machine. So in some kinds of glass an entirely distinct class of labour, carried on upon an entirely different system and in workplaces more or less separate, is employed to complete such glass for use, as in polishing and cutting up plates or sheets of glass, and "cutting" or ornamenting flint glass. This distinction between glass "making," or glass house work, and subsequent processes will have to be borne in mind throughout, as it must be frequently referred to under the different headings to be treated of hereafter.

15. Some statistics* furnished as to the above four main branches of the glass manufacture, though relating chiefly to one or two districts only, give some measure of the present importance of the trade as a whole, as well as of its increase within the period referred to. These considerations are of obvious importance with reference to the present or probable future numbers of the young glass workers concerned, as well as to the number and amount of the other interests involved.

Plate glass trade increased.

16. From the date of the removal of the excise duty on glass in the year 1845, the produce of plate glass at one manufactory alone at South Shields, up till that time the largest in the kingdom, had by the year 1863 increased nearly fourfold, viz., from 312,000 to 1,240,000 feet in a year. There are six plate glass manufactories in the kingdom; of these I have visited three, the others being in Lancashire. The three which I visited, and no doubt the others also, are all large establishments.

Crown glass trade declining. Sheet glass trade increased.

17. The manufacture of crown glass has greatly declined, and it is considered "will gradually die out "in this country, as it has already done on the continent;" but that of sheet glass, which serves the same purpose, has far more than proportionately increased. By the year 1863 the produce of sheet glass in two manufactories in one town had become 8,000,000 feet per annum, worth, at a low rate of value, 50,000*l.* The largest of these two alone produces nearly as large a quantity as the six extinct crown glass manufactories on the Tyne, and, as estimated by one of the firm, fivefold what it turned out before the removal of the duty. There are seven sheet or crown and sheet glass manufactories in the kingdom, three large, and four comparatively small, but still works of importance. The two just referred to belong one to each class. Of these, I have visited five, the two others being in Lancashire.

Improvement in flint glass.

18. A leading flint glass manufacturer states that this art has been greatly improved, as no one can have failed to observe, within the last few years by the improved taste of the producer acting on and re-acted on by the taste of the public. This he attributes, in a great measure, to the stimulus given by the late Exhibitions and other means of cultivating the taste, such as schools of design, &c.

Seat of flint glass.

The great seat of the higher class of flint glass making is the Birmingham and Stourbridge district, in which I visited a considerable number of the manufactories.

A new branch, viz., "Pressed" flint glass.

19. In Newcastle-on-Tyne and its neighbourhood, which was another great seat of the blown flint glass manufacture, this has of late greatly declined, to the extent, as stated, of 50 per cent., but the "pressed" flint glass has been immensely developed within the last few years in its place. The annual produce of flint glass on the Tyne and Wear, in which district the "pressed" glass branch of manufacture has its chief seat, though it is in most places carried on to some extent by blown flint glass manufacturers also, was in the year 1863 "estimated by competent authority at 10,000,000 lbs. "weight," of the wholesale value of about 200,000*l.* One firm which formerly produced annually 350,000 lbs. weight of blown flint glass were then making of pressed glass about 3,000,500 lbs. The much cheaper rate at which vastly increased quantities of glass can be produced by means of the press thus brings a useful and elegant article within the reach of a far wider class of consumers. This kind of glass is represented as being constantly brought to a higher state of finish; it also to a great extent renders the manufacturers of it independent of the skilled glass blowers, by whose combinations manufacturers of the blown glass are much fettered, and, indeed, apparently owes much of its rapid development to this circumstance. It, therefore, seems highly probable that this kind of work also will continue to increase largely.

Bottle glass trade increased.

20. The glass bottle manufacture has also increased very greatly of late years, and is still increasing. In the year 1862 the produce of the 47 houses then in operation in the district of the Tyne, the Wear, and the Tees, the chief seat of the common black bottle manufacture, was above 50,000,000 of bottles. There are now 28 bottle houses on the Wear alone, *i.e.*, in and near Sunderland, and probably about 50 in this whole district. The bottle manufacture had increased fourfold since the repeal of the duty in 1845, but other causes, such as the growth of the bitter beer trade, have greatly increased the demand for bottles, especially for export. Yorkshire is another great seat of the bottle trade, especially the pale bottle branch. A village there, Castleford, to which the bottle manufacture was introduced less than 30 years ago, has in consequence, with its immediate neighbourhood, increased from a population of 2,000 to 10,000, an agricultural population being constantly drawn in by the attraction of work for families. There are 23 bottle houses now at work there, and "there is every "reason to suppose (that the trade there) will be very much more extended." (No. 232.) I visited bottle works in the chief districts and some scattered places in England, and also in Scotland, viz., Glasgow and Edinburgh; and in Ireland, the only works which I heard of there being in Dublin.

* For most of these I am indebted to the kindness of Mr. R. W. Swinburne, of Newcastle-on-Tyne, an eminent glass manufacturer. For further details, see the paper furnished by him, No. 237.—J.E.W.

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21. The chief circumstance which seems to determine the seats of the glass manufacture is the neighbourhood of coal, of which very large quantities are necessary, but the facilities for obtaining other materials, such as sand, marl, &c., have also in some cases had an important influence.

22. In speaking of glass house work generally, without mentioning the particular kind, I in most cases do not mean to refer to plate glass houses, in which the work is of entirely a different kind, and men alone, with the exception of a very few boys indeed are employed.

Seats how determined.

I.—Age at which Children and Young Persons are employed.

Age of youngest.

23. The age at which the youngest children usually enter glass works is from 9 to 11, but this varies much in different districts and kinds of work. Many go not older than 9. In some cases boys have gone into glass houses younger, in a few as young as 7, but apparently not so young of late as formerly. One, now 14, went into a bottle house, not as a regular worker, but to learn by working under his father about four hours at a time, when "going in sieven." (No. 204.) In flint glass cutting shops boys do not begin younger than 12 or usually 14, except a few who come as mere attendants. In some glass works few if any children are found, and in most the mass now at work are over 10 or 11. At the crown and sheet glass works of the Messrs. Chance, of Birmingham, the largest which I visited or heard of, there is a rule against any boys being employed under the age of 12, and it appears to be strictly enforced, though a very few get in younger. The Messrs. Powell, a leading London firm of flint glass manufacturers, have for many years enforced a rule against employing any under the age of 13. Several other masters have a dislike to boys below those ages, and those who get in younger are taken in out of consideration to their circumstances, or by their fathers or relatives. The average age appears lower in Birmingham than at Stourbridge, where the work is of just the same kind, and most other places. According to the returns of the last census the boys under the age of 15 are one in 7·3 male glass workers of all ages in Warwickshire, against one in 8·5 in Staffordshire, and one in 9·7 in Worcestershire.

Youngest in England.

24. The manager of some Scotch bottle works, who has had a long and wide experience in English glass districts, states his opinion that, in glass work, as in manufactures generally, children are sent to work younger and get to men's work sooner in England than in either of the other two kingdoms, being able to do the work, though not properly old enough for it, "because their parents make them." (No. 202.)

II.—Sex. Numbers of Girls and Women.

Few in glass making.

25. Females are not employed in glass "making," though a few are found engaged in odd ways in connexion with that department. I think it, however, worth while to notice one way in which, in one or two parts of the north of England, including however the chief seat of the black bottle manufacture (Nos. 177, 181 Note), women and girls are employed in glass houses, viz., in "drawing," or taking out bottles from the arches or annealing kilns. The number of these, however, is very small, it being, as it ought, only in a few neighbourhoods that it is the practice to employ females so, and a woman and a girl being sufficient for a house. The only girl under the age of 13 whom I remember finding at this work had been at it four years.

Larger proportion in plate glass works.

26. In plate glass works the "smoothing" of the plates, a part of the polishing process, is done by females, as it is also in a large sheet glass manufactory, where a like process is performed. These four manufactories employ close upon 400 females, about a fifth of them being young persons, and only two children.

Other glass works.

27. Females are also employed in the cutting department of flint glass works, in roughing or obscuring glass for lamp globes, &c., work done by means of steam machinery; also in washing and cleaning glass, wrapping up in warehouses, and in a few other miscellaneous ways in works of all kinds. One of these is painting and enamelling ornamental glass for windows, &c., a superior employment. In some works a woman or two prepare clay for making the pots used for founding the metal. A sufficient account of the number of girls and women engaged in the manufacture will be gathered under the next head.

III.—Number of Children and Young Persons employed.

Number furnished by returns.

28. Returns which have been furnished to me from forty-five glass manufactories of different kinds and sizes, including the three plate glass works and four of the five crown and sheet glass works not in Lancashire, and twenty-five flint and ten bottle glass works in the chief seats of those manufactures, and one or two miscellaneous kinds of glass work, give the following numbers of children and young persons employed in those works:—

	Children.		Young Persons.	
	Male.	Female.	Male.	Female.
Plate glass	59*	—	135*	52*
Crown and sheet glass	112	—	432	16
Flint glass	89	1	418	43
Bottle glass	109	5	289	29
Stained and other glass	2	1	11	5
	371	7	1,285	145
Total	378		1,430	

* The return from one plate-glass manufactory gives only the aggregate numbers of boys under 18, and females over or under 18. The numbers are apportioned by assuming the proportion at given ages to correspond with what is found in the other two like manufactories.—J.E.W.

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Estimated further number.

29. I assume the only sheet glass manufactory from which I have not received a return to employ about the same number of children and young persons as one of the others, with which it is on just about an equal scale in other respects. Other flint glass manufactories which I visited, exclusive of those in London, employ a further number, probably not less than 55 male children and 170 male and 40 female young persons, besides some women. The small flint glass works and cribs in London may probably be roughly estimated to employ as many as 50 boys under the age of 13, and 100 more under that of 18. Besides the above, and the flint glass manufactories in Lancashire, which I excluded from my inquiry, there are some others in different parts as to which I have no data on which to base an estimate, except that the numbers contributed by them would probably be quite small relatively to the numbers in flint glass works as to which I have formed an estimate.

30. The general uniformity in the size of bottle glass houses and the number and class of persons employed in or about each probably allows of forming a fairly approximate estimate of the number of hands employed by a given number of houses by the aid of the returns from a portion of them. I have been informed of the existence of about 86 bottle glass houses now in operation, independently of those as to which I have received returns and of those in Lancashire. A number of these 86 are in works which I have visited. Even as to the works from which I have returns, I do not in all cases know the number of the houses forming the works, but I do as to works comprising from one to nine houses each, or 28 in all. The average number of boys to each of these houses is, as nearly as need be stated, 3·4 children and eight young persons. Taking the same average of boys for each of the other 86 houses, gives 292 children, and 688 young persons. Many bottle works employing no female children or young persons, I add no females, though probably there may be a small number in some of the other works. There may also no doubt be other bottle works of which I have not been informed, besides these in Lancashire, but probably no great number.

Aggregate number.

31. I therefore estimate the aggregate numbers employed in works as to which I have any data, exclusive of Lancashire, as follows:—

Estimated Number of Children and Young Persons.

	Children.		Young Persons.	
	Male.	Female.	Male.	Female.
Plate glass, from returns	59	—	135	52
Crown and sheet glass, from returns	112	—	432	16
„ „ estimate for manufactory visited, but not sending return.	5	—	42	3
Total, crown and sheet glass	117	—	474	19
Flint glass, from returns	89	1	418	43
„ estimate for other manufactories visited, but not sending returns.	55	—	170	40
„ Do. for small works in London	50	—	100	—
Total, flint glass	194	1	688	83
Bottle glass, from returns	109	5	289	29
„ estimate for bottle works not sending returns	292	—	688	—
Total, bottle glass	401	5	977	29
Stained and other glass, from returns	2	1	11	5
Total, all kinds	773	7	2,285	188

Total of children, male and female	780
Total of young persons, male and female	2,473
Total of both	3,253

32. After working out the above estimate, but not till then, I referred to the tables of the last census of England and Wales. The numbers of persons there returned as engaged in the glass manufacture are as follows:— The Glass Manufacture. Mr. J.E.White. Q. Numbers from census.

——	All Ages.	Under 20 Years.	20 Years and upwards.	5–	10–	15–	20–	25–	30–	40–	45–	60–65.
MALES.												
England and Wales -	13,809	3,954	9,855	55	1,569	2,330	2,102	1,717	—	951	—	293
Lancashire (deduct as excluded from my inquiry).	2,823	865	1,958	8	386	471	—	—	—	—	—	—
In area of my inquiry in England and Wales.	10,986	3,089	7,897	47	1,183	1,859	—	—	—	—	—	—
FEMALES.												
England and Wales -	1,237	500	737	2	98	400	—	—	—	—	—	—
Lancashire (deduct as excluded from my inquiry).	583	282	301	1	52	229	—	—	—	—	—	—
In area of my inquiry in England and Wales.	654	218	436	1	46	171	—	—	—	—	—	—

33. Taking in each case three-fifths as the proportion of those returned as between the ages of 10 and 15, and of 15 and 20 respectively, likely to fall under the ages of 13 and 18 respectively, this gives a total of—

	Children.	Young Persons.
Males - - - - -	756	1,588
Females - - - -	28	120
Total - -	784	1,708
Total of both - - -		2,492

34. Seeing that all the plate, crown, and sheet glass works, nearly all the flint glass works, and four-fifths of the bottle glass houses of which I have been informed are in England, and deducting, say, 400 children and young persons from my estimate for the proportion in Scotland and Ireland, this leaves a difference of only 361, or allowing for the probable increase of the trade in some branches since the date of the last census, in effect a sufficient agreement, perhaps as close as could have been expected between two estimates arrived at in such different ways. Thus: Comparison of numbers from both sources.

My estimate of children and young persons - - - -	3,253
Deduct for Scotland and Ireland - - - - -	400
	2,853
Estimates based on census returns - - - -	2,492
Difference -	361

It will also be observed that the full number of my estimate of children, which I was careful not to make too high, is made up and slightly exceeded by the census numbers for England and Wales, exclusive of Lancashire, thus confirming the remark made elsewhere (b. No. 202, B. 24.) by a witness of wide experience, that it is in England that boys are sent to work the youngest.

IV.—Hiring of Children and Young Persons.

35. Boys who have not reached the stage of being actual glass makers or glass cutters, but merely work as helpers, *e.g.* takers in, shovel-holders in sheet glass houses, &c., are paid weekly wages in most cases by the manufacturer, in some by the men under whom they work. When a boy reaches the first stage of learning the trade as footmaker in flint glass houses, or a cutter in a cutting shop, he is "put on" as an apprentice to the manufacturers either legally or practically as such. The apprenticeship in England is till majority, usually for seven years. In Scotland the apprenticeship sometimes is for a shorter period, as it is also in Ireland, and has no reference to attaining the age of 21, or any other age, or not. Weekly wages and apprenticeship.

36. In one large bottle glass manufactory, on the occasion of a strike, some of the boys were required, as being apprentices, to undertake men's work, though on the boys refusing and being summonsed, the case against them broke down, owing to a legal flaw in the supposed apprenticeship.

37. Piecework is spoken of as the practice in different machinery departments of some plate glass works, a man being paid for the amount of work turned out in a week in his shed or work-room, and the wages apportioned by him amongst the workers according to their share of the work; but this appears not to extend to the boys. In all the plate glass works boys appear to get regular wages. The girls who smooth usually work as helpers to some woman, and receive such part of the woman's wages as Piecework and day wages.

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the latter allows, or, if the woman is her mother, as is often the case, a trifle to spend, such as 1*s.* or 6*d.* Boys or girls who draw bottles from the arches are paid sometimes by the adults whom they help, sometimes by the master. In most other departments the work is day work, and the wages paid by the master.

V. State of Place of Work.

Temperature of glass houses.

38. It seems commonly supposed by persons who have had but little practical acquaintance with the facts, that glass houses of every kind and in all parts of them are and must necessarily be very hot places of work. This idea requires considerable correction. The amount of air is always very ample, and the general temperature of a house, *i.e.*, that at a little distance from the furnaces, is often very moderate, and in most cases the boys, at any rate, spend a more or less considerable part of their time in these cooler parts of the buildings. In some houses, indeed, even the general temperature is warm, but I have seldom found it oppressively so, except near the furnaces.

39. The heat, however, to which the workers are actually exposed for more or less of their time, depends greatly upon the construction of the houses, the size and relative position of the different furnaces and annealing kilns, the stage of the manufacture which is going on, and still more on the part of the work on which a person is engaged. Where, as I have occasionally noticed, owing to want of space, furnaces and kilns are crowded near together, the heat is reflected back instead of escaping, and is much accumulated, so that boys are constantly in a heated temperature, being, as it were, "between "two fires." Some houses again, especially those in flint and bottle works built with the old construction of cones, have little direct communication with the outer light or air, except through the cone top through which the smoke escapes, and are certainly very hot, especially in hot weather, as well as dark, too dark in most parts to write. Till I had seen many houses, I thought that gloominess and want of light was the rule. A friend who accompanied me to some sheet glass works on a warm day was unable to bear the heat for more than a few minutes. In crown and sheet houses the quantities of metal dealt with at once, and the openings to the furnaces, are much larger than where flint or bottle glass is made.

Draughts. Smoke. Dust.

40. In hot houses of all kinds, owing to the heat, the outer air rushes in in strong draughts through doors or other openings, sometimes close to where boys have to work. Sometimes, also, there is a strong smell from the coal, "the sulphur," as it is called, or the air is thick with smoke, which boys say makes them cough. In some also there is a large amount of dust. In the middle of a bottle house I have been repeatedly covered with blacks, which on the chance opening of a door have been blown over me from the heaps of slack or small coal which lie about in such houses. Boys' faces get grimed with this, which, with the perspiration every now and then wiped off by grimy hands, makes an unsightly plaster.

Comfortable glass houses.

41. Many houses, however, such as flint and bottle houses of the newer and cheaper construction, in which the smoke from the furnace goes straight up a chimney, round which the glass house is built like a shed, are not only light, but cool and pleasant. It is due in particular to the Messrs. Sowerby and Neville, of Newcastle-on-Tyne, who have about the largest flint glass works in the kingdom, to state that the favourable comparison as to coolness, airiness, cleanliness, &c., which they make of the state of their own work-place with that of many other glass houses, is only what my experience fully bears out. Large sized openings over the mouth of a furnace have been pointed out to me as of great use in causing a strong current of air and keeping houses cool, and the houses in which I saw them were fresh. Smaller openings are thought to save more heat, but the saving does not seem to be important. (Nos. 153, 158.)

Importance of cleanliness. Arsenic.

42. A small flint glass master states that "the chief thing for health in glass work is to keep the "place quite clean, and have no dust or sulphur about." (No. 134.) The importance of this cleanliness of the work-place, especially with regard to the general practice of taking meals in it, is strikingly illustrated by a medical gentleman, who has known of "one or two narrow escapes from arsenical "poisoning from the food being dropped on the floor when arsenic is put into the pots." (No. 232.) Arsenic is one of the ingredients of bottle glass, and is used in large quantities, "about two tons" each week being used in the bottle works of one town and immediate neighbourhood, and "vegetation is "greatly affected," whether from that cause or the sewerage in the river, "and more especially during "the last few years," during which time the trade there has greatly increased. (*Ib.*) Some arsenic is used, but I am not aware to what extent, in glass of other kinds.

Lead in flint glass works.

43. In flint glass, in like manner, lead is an important ingredient to such an extent as to make the mixing of the materials, if done by manual labour, and not, as it is in cases which are represented as very exceptional, by machinery, and unless great care is used, a very unhealthy employment. (Nos. 96, 153, 72.) The materials, which are mixed in the form of powder, are wheeled into the glass house and shovelled through holes in the furnace into the pots. At some large flint glass works, where every care is used in mixing the materials, a manufacturer pointed out to me that his materials were in a damp state, and therefore could not fly about. It may well be that most or all of the noxious fumes from the materials escape upwards to the outer air, as manufacturers have told me that they do. The only complaints which have ever been made to me as to the quality of the air in a glass house are confined to the "sulphur," smoke, and dust. The above remarks are merely to direct attention to the apparent importance of keeping the place clean.

Heat greater in founding.

44. It should also be remarked that the greatest heat, when, if at all, any noxious fumes would seem to be most likely to escape, and when alone in most cases there is much "sulphury" smell or smoke, is during the founding or melting. In all regular factories, the founders, and also the teasers, whose duty it is to keep up the furnaces, are stated to be men, though a "founder's boy" is mentioned in one place. (No. 26.)

Heat different according to work.

45. The main difference, however, of temperature to which a person is exposed depends upon the kind of work and the part of it in which he is engaged. Those who are subjected to the greatest heat

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as a rule are only the men who have charge of the metal and furnaces during the preliminary process of founding or melting before the actual "working," as it is called, or glass making proper begins. This heat near the furnace in crown glass works was put at from 300° to 330°. (Children's Employment Commission Report 1842. App. d. 49.) Again, of the glass makers, it is in most cases only the men or big boys who have reached some of the upper stages of the work who have their habitual place of work near the furnaces. The younger boys are chiefly occupied in passing more or less quickly from one part of a glass house to another, and thus are seldom more than a few seconds or a minute or two at a time in the hotter parts.

Hottest boys' work.

46. It would be tedious to detail here all the various duties which require a boy to be in a hot position. In some work they are almost permanently so, as in crown and sheet glass houses. The hottest posts, so far as I have observed, are those of pushers in crown glass houses, and of shovel-holders in sheet glass houses, work done by the youngest boys, but the details of this kind of work fall better under a later head. (B. Nos. 73, 75.) The heat in which the little shovel-holders stand is very great; at first I could hardly bear to go up and stand in their place. In one case where I tried the heat by my thermometer, held in the position of the boy's head, it rose to upwards of 130°. While I was standing near for this purpose my hat, both crown and brim, melted so out of shape that it was unfit to wear till restored by a hatter. Boys, however, become so accustomed to the heat that they often continue standing at their post instead of taking the trouble to move away as they might in the short intervals in which the work does not require their presence. A manager called a boy away, saying that he was making his work seem more than it was. In a flint glass house my thermometer at the mouth of the kiln, where the boys put in articles to anneal, standing there, however, each time only while they set down the articles, rose quickly to the top, viz., 150°. At some bottle works a taker-in, 11 years old, whom I asked how the hair on his forehead got singed so, as I had noticed it was, answered, "It's the heat of the arch; sometimes it swinges my clothes if the wind draws much." (No. 213.)

Heat of arches in which "drawers" work.

47. In a necessary part of bottle house work boys and sometimes girls are employed in an atmosphere less highly heated, but probably more objectionable because much closer and less pure. In flint glass houses the articles are drawn gradually towards the cooler end of the kiln, and there finally drawn out, the kilns being made very long and the glass placed in trays for the purpose. But in bottle houses the kilns, when sufficiently cooled down, are emptied by the hand of persons entering them for the purpose. These kilns or "arches," as they are called, are ovens, much like large bins in a wine cellar, in which the bottles are piled as commonly seen in cellars. These are sometimes too hot to be entered, especially if bottles are wanted out quicker than usual for an order; but usually the risk of breakage if the bottles are not sufficiently annealed is a security against the drawing being required or allowed before the temperature has been cooled to the usual standard, though I was told that this is not ascertained by the thermometer; the length of time which the bottles have been left in is the guide. A manufacturer whom I asked what was the heat of one of his arches, supposed "about 70°," but on entering it I found it to be 106°. Another at other works was 120°. These I judge from the feel to be fair specimens. At other bottle works in Dublin, an arch into which I got was so hot and close as to cause difficulty of breathing. Another, in which a boy was, but into which I only put my hand, felt hotter. A boy had his hand tied up from a burn from handling hot bottles. The gloves which at this manufactory are supplied to the boys for the purpose by the master are "sometimes nearly worn out." (See also the C. E. C. Report of 1842, App. i., Nos. 161, 160.)

Atmosphere arches.

48. The arches have no communication with light or air, except the openings, sometimes a door, sometimes a mere hole which must be climbed through, through which the bottles are taken out. From this cause and from the fire which has been for some time previously burning in the arch to heat it, the air no doubt, as I was informed by a medical gentleman that it does, becomes deficient in oxygen, and therefore more exhausting to work in.

Arches objectionable.

49. I consider that arches are places altogether unfit for girls to work in, or for young boys at least for more than a very limited period. It is indeed only in some cases that drawing forms more than a portion of a day's work. "It would not be at all healthy," "would be quite improper," says the manager of some large works. (No. 183.)

Degree of heat in glass houses.

50. The high temperatures described cause perspiration in a person unused to them even at rest, and naturally in persons who work in them. A statement of the temperature in glass houses given in the report of the Sub-commissioner for the Birmingham district under the former Children's Employment Commission, (F. 24, s. 230), is as follows:—

"At the mouth of the furnace	-	-	-	from 172° to 220°
"Place where the blowers stand	-	-	-	„ 95° to 118°
"Place where boys "take-in"	-	-	-	„ 80° to 196°"

See also the evidence annexed to same report, f. 147, 151, 290. Also, same date, App. d. 48, Q. 90, s. 858.

Oppressive in summer.

51. The temperature is not generally found to be oppressive, except in summer; indeed in winter a glass house is not unnaturally considered a comfortable place by those who have become used to it, and thus susceptible of chills in other places. The wife of a working glass master told me that she remembers how her husband "used to pray for Monday morning to come that he might go back in the "glass house." In winter even glass houses are in some cases very cold. In part of one the thermometer "was at 20°, and water froze," and men sometimes work in two or three flannels. (No. 158.)

Advantages of cool houses.

52. It is plain that a cool and well-ventilated glass house greatly increases the effective powers of the workers. The same witness puts the average temperature in which flint glass blowers work, *i.e.*, taken at the mean distance between the furnace hole and his seat, at 80°. At 75° a man "can "work 8 hours." If it is "from 95° to 100° he is done very soon," and "when you come to work any "time at above 100° you feel quite short of breath and uneasy, with a sensation of heat and tremendous "thirst." "You cannot sweat, and when that stops you begin to suffer." (*Ib.*)

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53. In only one case did I visit the buildings in which plate glass is cast, scarcely any boys being employed in this department anywhere, three or four at the most in any one place. These buildings are necessarily large and roomy, but owing to the circumstance just mentioned their state is of little importance to the present purpose. I found only one or two young boys in this department.

Plate glass houses. Wet in grinding and smoothing sheds.

54. The sheds in which boys grind, and those in which women and girls smooth plates or sheets of glass are, in some cases, sloppy from the water used in these processes, the water sometimes standing in puddles, and the dresses getting wetted; but this differs much in different cases according to the care bestowed on the point. The air in one or two places was also noticeably damp and raw from the same cause. It appears that means might without difficulty be taken to keep the feet of the workers from this wet, such as by racks to stand upon, such as I noticed in a room in some Scotch flint glass works in which females wash up glass, and have also seen in the linen wash-house at an admirably conducted orphanage for girls; or by arranging the floor so as to let the water escape, as some Sheffield grinders say is desirable and sometimes done. In one large manufactory I noticed females with high wooden shoes.

Dust in polishing sheds.

55. The places where plates or sheets of glass are polished, as well as the dresses of the workers, are red from the powder used, but this is of a kind to which slight, if any, bad effects are attributed. (No. 22.)

Flint glass cutting shops.

56. The cutting shops in flint glass works vary much. They are, however, generally light and cheerful, a good light being necessary for the work, which requires close watching. Some are roomy, duly ventilated, and well arranged, but "the temperature is usually high, viz., about 65° (No. 89) and higher probably when gas is lit. Others are choked up with the bands and machinery, always worked by steam; and in some cases so much so that to avoid the bands, which usually slant up from the grinding stones on each side to the roof, it is necessary to stoop in passing. My first impression was that the number and position of these bands in most places must be a source of danger, but this appears not to be the case. A band, however, in a decayed or faulty condition, such as I have noticed, plainly increases the risk of catching in fitting it on, in which there appears to be some risk as with bands used in any kind of work. (Cf. Nos. 94, 65.) See also a case of a boy being killed.—Children's Employment Commission Report, 1842, App. f. 150.

Want of ventilation.

57. Some shops also have not sufficient or any apparent ventilation beyond the windows, and smell close. Ventilation and cleanliness are plainly, as they are universally allowed to be, of great importance in this work owing to the nature of the materials employed. Putty powder, of which lead is a chief ingredient, is used in the two finishing processes, viz., polishing and puttying, to give a smooth surface, and flies off plentifully, more especially when a circular brush has to be used instead of a grinding wheel, and thus impregnates the air. A manufacturer informed me that another more injurious substance would answer the purpose still better, but as far as I am aware it is not used. A certain amount of sharp particles are also thrown off from the glass, which also contains lead, and from the stones or cutting wheels themselves, of which one kind consists of discs containing lead. The cutting, however, is done "wet," as to which see remarks on "wet" and "dry" grinding as observed at Sheffield in the Metal Manufactures of that district. The particles are plainly visible to the eye, and, where several brushes are in use at once, in such quantities that I was told by a glass cutter "you can hardly see down the shop," probably a rather exaggerated expression. The amount thrown off is enough to be worth catching by means of boards placed behind the wheel, and saved to be used again.

No appliances for protection of workers.

58. Appliances, however, for protecting the workers from the particles, further than by general ventilation, are not in general use. A cutter whom I found with a wet sponge over his mouth and nose, and whom his doctor "always tells to give up the work," said that he had found a handkerchief for the same purpose was worse than being without it, and that he had heard from other men that the sponge was "a good thing." I have, however, scarcely ever seen such or any other appliances for the same purpose in use. A flint glass manufacturer of high standing states, "It is impossible entirely "to remove the noxious effects of putty by ventilation or other means, though they may be much "lessened." (No. 89.) The idea of currents of air appears to have been entertained as long ago as 1841. See Report of 1842, App. Q. 860, q. No. 261.

Want of washing places.

59. Owing chiefly to the above causes, flint glass cutting shops are generally regarded both by employers and workmen as much less healthy as work places than glass houses are. Seeing how important scrupulous cleanliness is said by all experienced persons to be in this work, it certainly seems desirable that greater facilities and encouragements for washing than I have anywhere observed should be provided. Water is needed for the work, and stands in numerous tubs and buckets near the workers. This may be and is used for washing, but it is used also for dipping the glass in while grinding, and becomes dirty. A foreman speaking of the attention necessary on this point, states that in his shop "in winter the engine pumps up hot water." (No. 79.)

VI.—Nature of Employment.

Work of boys.

60. The employment of boys in glass houses is so various that it would be tedious, if possible, to give the details. The youngest and most numerous class are not commonly regarded as glass makers at all, but merely as attendants and helpers to those who are so. As to a great part of their work, however, the distinction is unreal in this, as in many other manufactures. The general work of the boys is a saving of time or strength to the men, and is thus in reality as much and as truly a part of the manufacture as the work of the men themselves. If it were not done by the boys it must be, as it sometimes is, done by the glass makers. It is especially in flint and bottle glass houses that the work done by young boys forms an essential part of the system.

"Chairs" or sets in flint glass houses.

61. In all glass houses men and boys work in sets. In flint glass houses the set, or "chair," as it is called, consists usually of four persons, viz., the headman or "workman," the second or "servitor,"

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the third or "foot maker," and the fourth or "taker-in." Of these the taker-in is nearly always a boy, and usually under the age of 14 or 15; the foot maker sometimes a boy, and sometimes a man, but nearly always over the age of 14 or 15; the "servitor" is occasionally, but very rarely a boy; and the workman nearly always a man of full age. In some kinds of work the set consists of more hands, and in pressed flint glass work another young boy or two is usually wanted. In inferior kinds of work in smaller places the set consists of fewer persons, say, two men and a boy or even one man and a boy.

"Holes" or sets in bottle glass houses.

62. In bottle glass houses the set or "hole," as it is called from working at the same hole or mouth of the furnace, consists usually of five persons, viz., the bottle maker or finisher, the blower, the gatherer, the putter-up, and the taker-in. Of these the last is a boy of the same age as in flint glass houses, the putter-up a boy rather older, the gatherer a boy or youth, and the two top hands nearly always men. Each furnace has several "holes," or mouths, usually only one to each pot. The common number of pots to each furnace or house is four, in some six.

In other glass houses. Takers-in.

63. In other kinds of houses the proportion of boys is much smaller, and they are more strictly mere helpers. Thus in sheet glass houses a common set is two men and the "boy," and there are odd boys besides. The details of their work will be sufficiently gathered from other parts of the report and evidence.

Putters-up, &c.

64. The chief work of the takers-in, and from which their name is derived, is to carry the articles when made from the glass makers to the annealing kilns, and this must be done at the moment, or the articles would be spoiled. They do also a variety of other odd work, such as cleaning the irons, and waiting on the men.

65. Putters-up or wetters-off in bottle glass houses, and stickers-up in pressed flint glass work, take an active part in various details of the manipulation of the glass, as do also some of the boys in crown and sheet glass houses. The latter class, however, have no distinctive name, but are called merely "the boy," or "spare boys."

Incomplete sets.

66. When a boy or any others of the members of a set are absent, the set work, as it is called, "short handed," and make up amongst themselves the work of the absentees, doing, if possible, a suitable kind of work, and the diminution in effective power is measured by a scale fixed by the trade. The loss of work occasioned by the absence of a taker-in in flint glass houses is fixed at 14 per cent. (No. 96.) Working short handed is reckoned extremely wasteful to the employer. (Nos. 52, 203, &c.) A boys' work varies much not only in different branches of glass work, but also in different kinds of work in the same branch.

Amount of exertion.

67. In flint and bottle houses, in which the mass of the younger glass house boys are employed, the great feature of their work is the number and frequency of the several small operations which they have to perform, each usually easy and light in itself, and so far justifying the opinion, not unfrequently expressed by employers, that it is not really "work." Apart, however, from the consideration of the heat, and the system of work hours, points noticed elsewhere, these duties in many cases amount in effect not only to "work," but to work causing severe strain on the bodily powers of young boys. The greater part of their time is spent in passing to and fro to take glass to the annealing kilns, carrying and cleaning the men's irons, and in occasionally standing to help the men at their work in various ways, or holding irons with or without glass on at the mouth of a furnace. In crown and sheet glass houses most of the work is of much the same kind, except that there is no "taking-in."

Constant occupation.

68. A boy's attention is constantly taken up, and owing to this, and his almost constant motion, it is almost impossible to speak to him while at his work, at any rate so as to get an answer, so that I often had great difficulty in questioning boys without interrupting their work, and so that of the men; and the others being equally occupied, it was often difficult to find anyone to take a boy's place so as to allow of my speaking to him quietly. Thus I have often had to ask a boy a question in one part of the house, and follow to another for the answer, and perhaps to a third before I could get it, and then only in the presence of other persons. This no doubt was to some extent a check on free communication of facts. Those spoke most freely and gave the least favourable account whom I was able to get apart quietly, or saw away from work. The smaller the articles made, and the rougher the workmanship, the greater is the number of them turned out in a given time, and the greater also the demand upon the boys' exertion.

Great distances travelled.

69. Apart from the other work, the mere distance travelled in a day's work is surprising. It is impossible to state it definitely, as it varies in almost every case with the size of the house, the relative position of the pots or parts of the furnace, and the kilns in use, as well as the kind of work being made; but taking some instances as specimens, it is plain that it often amounts to a great number of miles, and when the distance to be travelled, or the number of things made is great, a boy must almost run, and sometimes does quite.

In bottle glass houses.

70. A gentleman practically acquainted with bottle works in Yorkshire states that the takers-in in them "run upon an average from 15 to 16 miles each journey" or day's work. (No. 232.) At one of these works in which I measured the distance travelled by a boy 11 years old, it amounts, according to the greater or less number of bottles made, to from upwards of 13½ to 17 miles. (No. 190.) In a bottle house in the north of England a boy complains of a "far arch" being 16 yards distant. (No. 184.) Taking this as correct, when the turn for using this arch comes he has to travel to and fro in an average journey, *i.e.*, taking 90 dozen bottles as a fair average (cf. Nos. 177, 180, 187, 210, &c.) nearly 20 miles. If the use of this arch chanced to coincide with a higher number of bottles, the distance might be increased by up to fully 30 per cent, or even more. Though 90 dozen bottles is a fair journey, the actual number when smaller bottles are made is often much higher, running from 100 up to 120 or 130, or even 150. (Nos. 157, 177, 183, 192, 202, 203.) The number depends partly on whether five or six journeys are made in the week, the journeys in the latter case being usually shorter. But in one house "they are now working double journeys (*i.e.*, twice 63 dozen) every day, and six days in the week."

In flint glass houses.

71. Equally long distances are travelled in flint glass houses, but less generally. The longest distances occur when the articles made are small, and the workmanship of a kind which admits of turning them out quickly. Also the working periods are shorter, though more frequent. An intelligent witness, now a small master, speaking of the work in large houses, says, "We used to count sometimes how

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"many miles a boy had to walk in a turn. In some kinds of work, such as making common (flint glass) "bottles, it was, I think, as much as 16 miles in the six hours." . . . . (No. 134.) Another, also very intelligent, gives data of much the same kind, viz., 800 or 900 pieces as the number sometimes made in the six hours, and from 30 to 40 yards as a common distance to the kiln and back. In a house of which he speaks it was 40. This would give a taker the distance of ($40 \times 800 = 32{,}000$ yards) over 18 miles walk or run in the six hours. (No. 157). Another says, "The distance which a taker-in has to go in a "large place comes to many miles in one turn of six hours. The distance to the kiln is in some (extreme) "cases, I should say, 20 yards, and the same back, and with some work 400 articles will be made in the six "hours." No. 139.) The numbers which they quote are probably extreme cases, given by them to illustrate more forcibly the exertion imposed on boys even in common cases. In a pressed flint glass house in which I took the measures, the distance to the kiln which must be gone by takers-in varies from a very few steps at the shortest up to about 18 yards, or probably on the average 10 or 11 yards; this is doubled in returning. Taking 800 as the average number of pieces made here in a turn of eight hours, and 21 yards as the average distance for each piece, this gives the taker-in $9\frac{1}{2}$ miles in a turn. With 1,400 pieces, which has been known, and the same number of yards for each, the result would be 16 miles, and with the extreme number of yards, 28 miles. (Nos. 144, 145). An event however depending on the average of either pieces or yards being passed, will be unusual just in that proportion, and highly improbable if it depends on a combination of both extremes. Pressed flint glass making is in all cases very rapid. Again, in places in which small glass things are blown, such as medical bottles, the work of the taker-in is very quick. I was told that of the smallest kind, at least 15 gross, or 2,160, are expected in a day, and 18 gross could be made. Taking not more than 12 yards as the distance to and from the kiln each time, taking in 15 gross would require the boy to walk nearly 15 miles in the day. But this number seems larger than could possibly be made in the time by one set of hands, and there is, perhaps, some mistake. It is mentioned also that in some cases two or more pieces are taken in at the same time, but this does not apply to good kinds of glass.

Average distances.

72. The measurements above given are the shortest lines from the place where the glass is finished by the glass maker to the kiln, and do not include windings in and out to avoid other workers or obstacles, or the other short distances which a taker has to move in doing other portions of his work, not easily capable of measurement. Judging from mere eye, without measurement, I should say that the long distances to the kilns mentioned above are some way above the average, and that 15 yards for the double distance is perhaps a common distance; often it is less. The natural effects of going these long distances are referred to hereafter. (B., XIV. Especially B., No. 151.)

Hot work in crown glass houses.

73. The crown houses now at work are very few, and this kind of glass is said to be dying out. The work, however, of some boys still at work in them exposes them to great heat. In one manufactory a boy had been at work since nine years old as "pusher," *i.e.*, in sliding an iron door back over the mouth of a furnace after each piece of glass is drawn out. The disc in being carried away passes so close, within, say, a couple of feet of the boy, shut in a corner of the highly heated brickwork outside the furnace, that he turns his face into the corner to avoid the heat of the glass. Standing much further both from the furnace and the disc as it passed sufficiently cooled to be red only at the edge, I found the heat of it when in front of me very powerful. The boy carries away the pipe when separated from the disc, and returns to the furnace perspiring profusely. This, I was told, is the most severe work in which boys are engaged at these houses, which are large crown and sheet glass works. In some other crown glass works no such pushers are employed, the doors, a supposed improvement, not having been introduced. One crown-house boy, aged 12, a thimble-holder, though at a considerable distance from the furnace, was screening the side of his head from the heat with his hand. (No. 46.)

Boys' work in sheet glass houses.

74. In sheet glass houses, boys, all however necessarily of good size, and over 13, push cylinders into the annealing kilns, work not specially warm, but requiring strength. If, as a manufacturer predicts, foreign competition compels English sheet glass manufacturers to make lighter glass for the sake of saving by employing younger labour (No. 52), this is probably one of the departments in which the age of the workers will be reduced.

Shovel-holders' work hot.

75. Shovel-holders hold the shovel before the mouths of the furnace to screen the face and hands of the gatherers, usually men or big youths, from the heat while gathering the metal. It is not a constant employment, the frequency depending on the number of gatherers working at the pots. It is commonly said that the boys are not wanted to do this till the metal is worked about half-way down, and the gatherers' hands thus approached closer into the hole. I have, however, observed a boy take his place and hold the shovel the minute that a fresh pot was opened and the first gatherer came to it; a boy at another place says that this is the practice (No. 53), as it seems likely to be, the heat even at first being great. There is no exertion in this part of the employment; the point to remark is the great heat, and the young age of the boys. (Nos. 40, 42, 43, 45.)

Putters-up in bottle houses.

76. The "putters up" "stickers up" or "wetters off" of bottles, &c. are also boys, though usually older than the takers-in, being the next stage above them, but are sometimes under the age of 13. Their work requires much care and attention, as without this they are liable to get in the way of the hot metal as it is wielded about by the glass makers. In some bottle houses, in which the "hole" or workplace in which they stand is very confined, it is wonderful how they contrive to keep out of the way at all. In such places a stranger to a glass house cannot get near enough to speak to men at their work with safety, as I have been more than once cautioned.

Other work.

77. Boys perform various other duties, some in and some out of the regular work time. Some go round to the workers' homes to call them when it is time to begin a journey, or clean up in the intervals of work, or after work is over. Other details of employment are, holding a board to screen the hands of a flint glass blower from the heat of the glass at which he is working, if a large piece, radiating much heat, getting ready, cleaning, or holding implements in other sorts of work, preparing "dabby" or clay for arranging the pots properly, or altering the size of the opening of the furnace holes, and so on. The setting of new pots, which happens very frequently in some kinds of work, also finds odd work for boys. Cleaning up the place is another work. In fact the details cannot be described.

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78. One of the ways which, though no part of glass work, is not the least valued service rendered by glass house boys, and one which, it is said, would probably cause great opposition on the part of men to any restriction on the work of young boys, is that they act as general "fags," as described by one manufacturer (No. 129), in a way that no others would do. Running out for men's drink is a very common errand. These errands, however, when they take boys out long distances in cold weather, when "sweaty" and with "only shirt and trousers on" (No. 69), or if "the men won't let you stop for "that (*i.e.*, to slip a waistcoat on)" (No. 73),—it may be in a winter midnight,—amount to unpleasant work, and are apt to cause colds. Many boys are very poorly off for clothes. With work causing so much perspiration the want of proper change is a special disadvantage. "In summer it's awful" (*i.e.* the heat). "Wear the same shirt all through the week, and sleep in it." (Nos. 90, 193.) The feet suffer from this cause. (No. 134.) See also No. 203, *ad fin.*

Errands for men.

Want of clothing.

Weights carried.

79. Though in many parts of boys' glass house work the bodily exertion, apart from the quickness of motion and the distances travelled, is very slight, this is not so in all cases. The weight of each article taken in by boys, though small in itself, is practically much heavier from being held at the end of a fork several or many feet long. A taker-in of flint glass complains that heavy pieces, as of $1\frac{1}{2}$ or 3 lbs., make him out of breath, and speaks of his refusing heavy work. "3 lbs. at the end of a long stick,—so "long, (about 7 feet), is awful." (No. 86.) The weight of a common quart bottle is about 1 lb. 9 oz., or 19 lb. to the dozen. In a fair journey 90 dozen are taken in by a boy, making (19 lbs. × 90) more than 15 cwt., or in some fuller journeys about a ton, carried at the end of very long forks, for the distances above mentioned, though only a small weight at each time.

Blowing.

80. The pipes carried in crown and sheet houses are also heavy, some weighing 16 lbs. or 20 lbs., and boys sometimes carrying two of the latter weight at once. (Nos. 23, 47.) They are heavier from their great length, which requires them to be grasped near the heavier and hot end, on which account I have seen a piece of thick woollen cloth used to protect the hand. A sheet glass house "spare boy," whom I found carrying cylinders of glass, each weighing 19 lbs., two at a time, had to carry 200 some distance out into a separate building.

81. Boys seldom get to any regular blowing work before the age of from 14 to 16, even in the lighter kinds of glass. Young boys, however, who work with fathers or men well disposed to help them on in the trade, are constantly getting their hand in by handling the men's tools and trying to make things in spare times, such as the stoppages for meals. This is the way in which they are able first to show their capabilities, and learn the work enough to be put on. "Blowing behind" also was explained to me to be part of boys' work in a crown glass manufactory, and also in making large bottles or carboys, and to consist in performing the first process of enlarging the glass by blowing. This relieves the adult blower of part of the labour which becomes much heavier with the larger masses of glass.

Plate glass grinding, smoothing, and polishing.

82. Boys who grind or polish plates or sheets of glass stand watching the machinery, and throwing on sand or red polishing powder as often as necessary. Grinding lighthouse glass is a work of the same nature. There is no further exertion. The rouge or red powder reddens the face, hair, and entire dress, so that in one neighbourhood the boys were spoken of to me as the "red boys." From this cause half-time, otherwise than by working alternate days, would probably not be found suitable. Smoothers also commonly stand watching machinery, or rubbing with the hand. The rubbing is fatiguing work for girls, and the wet slops the dress unless they are properly protected and care is used.

Flint glass cutting.

83. Flint glass cutting is sedentary work, requiring a fixed leaning posture and close watching with the eyes, with a constant grasp of the glass to hold it properly against the cutting wheel. There are several processes,—roughing, smoothing, polishing, and puttying. The two latter, as already noticed, require the application of putty powder, and are part of the work done by boys. A cutter sometimes applies the putty with a small bundle of straw held in one hand, but in some cases a man's work is of a kind which requires him to have a boy to feed the wheel with putty for him. Boys thus get putty on their hands and splashes of it on their face and clothes, and in feeding for a man I have seen a boy's naked arm so dabbled with the putty mixture as to be literally covered with it up to the elbow, the shirt-sleeve being turned up to the top to keep it out of the way. The amount of putty thrown off is greatest in finely cut patterns, in which a revolving brush must be used instead of a wheel. Attention to cleanliness, and the state of the hands and nails underneath and at the roots, is of great importance. (No. 79.) Roughing glass, such as lamp globes, done by females at steam machinery with a handful of wire and wet sand, is work of the same kind, and very dirty, but not otherwise objectionable.

Other work out of glass houses.

84. In most works there is miscellaneous day work done in the yard or warehouses, *e.g.*, getting in coal and materials, carpentery for packing cases, examining, sorting, and packing glass, cutting up plates or sheets by hand, washing dirty glass, sorting and picking out waste glass or fuel for use, cleaning moulds, &c. These vary according to the kind and size of the works. In some small places an odd boy or girl is taken in perhaps only now and then, or for part of a day for the purpose of thus picking waste glass or fuel.

Brass foundry

Pot making.

85. In rare cases a brass foundry department, in which the employment is of the kind usual in brass foundries, is found, as supplementary to flint glass work requiring such fittings. Many manufacturers make their own pots, the quality of which is of vital importance to them, and in these cases a few females and boys are employed in carrying or preparing clay. This work is of a kind which would seem to come under the Factories Extension Act, 1864, which includes crucibles.

Stained glass work.

86. Much of the employment in stained glass manufactories, so far as I have seen or was informed, is of a higher and artistic kind, performed by a superior class of persons, none being children and but few females or young persons, and consisting in drawing designs or paintings, or painting them on glass. Other part of the work consists of burning in the colours at furnaces, work done by men, and cutting out glass and fitting it together, and soldering in lead work frames, called glazing, in which I saw a few boys employed. Under the circumstances, I made but very slight inquiry into this branch of manufacture. The manufactories of Mr. Wailes, at Newcastle-on-Tyne, and that of Messrs. Powell, of London, both well-known names, both of which I visited, probably afford fair specimens of this branch of art.

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Silvering mirrors. Barometer making.

87. Silvering mirrors seems to fall properly under the head of glass manufacture, but I found it carried on in only one of the manufactories which I visited, viz., the plate glass works at Newcastle-on-Tyne. Only a few men and women were employed, the latter cleaning glass for the men. There are several establishments in London, and some work is said to be done on a small scale in dwelling-houses. The employment is considered of a nature requiring great attention to ventilation and cleanliness. (No. 2.) See generally as to this and barometer making in the Sixth Report of the Medical Officer of the Privy Council, and Appendix, pp. 21–23, 359, 360, which shows that the work is very unhealthy without such care. But the persons engaged appear to be very seldom of the class falling within the scope of this inquiry. One of the largest establishments employs apparently only "one" boy in silvering. (*Ib.*, p. 359.)

VII. Hours of Work.

Peculiar systems of hours in glass houses.

88. The hours of work in glass houses of most kinds are very peculiar and varied, more so, probably, than in any other manufacture. They are, however, mainly governed by one common principle, viz., the length of time which it takes to prepare and work out the given quantity of metal which it is found expedient or practicable to manufacture at one time. Whatever amount of metal is prepared must be at once worked out, or nearly so, with only such slight interruption as may be absolutely necessary, otherwise loss of different kinds would be incurred. If the pots are large, and contain large quantities of metal, the process of founding is long, varying with the nature of the fuel, furnace, and material used, and if the metal is worked out, not in large masses at a time, as in plate, crown, and sheet glass works, or in smaller, but with very rapid execution, as in bottle glass works, but both in small quantities and with slower execution, owing to the large proportion of highly skilled manipulation required for each article, as in most blown flint glass work, the time of working out is lengthened in proportion. Only a limited number of glass makers can work properly at the same part of a furnace.

89. The term "manufacture," as used above, is limited by me to the production of glass in its original rough shape at the glass-making furnaces from the time of beginning to put in the raw materials till the time that they are sufficiently worked out, and the furnace left to be got ready to receive another set of materials, and does not include any preliminary or subsequent operations not dependent on the principal glass-making furnaces.

Number of working periods in a week.

90. In plate glass houses this act of production can be completed quickly enough to be repeated in fairly uniform periods daily; but in other kinds, except some bottle houses and the small flint glass works, it is longer by a greater or less number of hours. In crown and sheet glass houses it takes about 42 hours (Nos. 44, 49), and thus can be repeated only four times in the week. In bottle glass houses the length of time is less uniform, ranging from towards 30 hours in some to little over 24 in others, so that the act is repeated either six or five times accordingly. In flint glass houses, with the usual large furnaces, it takes nearly the whole week, and thus of course can be performed only once. The working out of the pots, except in the larger flint glass houses, is begun and completed by one set of hands at one time, not being long enough to require or admit of a relay. In some cases the pots are replenished in the course of working them out, but this is said not to be suitable for the best kind of work.

Varied hours at which they occur. Crown, sheet and bottle glass journeys.

91. Sunday secures usually ample time for the preparation of the metal, and in crown, sheet, and bottle glass houses the first working process or "journey" usually begins as soon as that day is ended, *i.e.*, at midnight, or within two or three hours after it, so as to allow as much margin as possible for accidental delays which constantly arise, in order that the full week's work may be finished before the week is out. In sheet glass works, at one place, the boys come at 9 p.m. on Sundays. (No. 42.) These working journeys take in sheet glass houses from 8 or 9 to 10 or 11 hours; in crown houses, an hour or two longer; and in bottle houses from 9 or 10 to 11 or 12, or in some cases more, *e.g.*, up to 14 or 15 hours. "Sometimes 14 or 15 hours." (No. 199). "14 or even 15 hours." (No. 203.) &c. Hence these journeys fall in either the day or the night, or, more often, partly in both, just as it happens, beginning after Monday at no definite hour, but just when the metal happens to be ready for working. Most of the remainder of the time is spent in the preparatory process, including filling in the metal, founding, and settling.

Founding.

92. The length of this process varies, but its average length is shown by what is above stated. Speaking roughly, it takes on the average in crown and sheet houses from 28 to 32 hours, in bottle glass houses from 14 to 18 hours, and in regular flint glass houses is performed between Friday or Saturday, and Monday, sometimes Tuesday. When six bottle house journeys are made in a week both the founding and the working process are shorter than with five, and things being favourable, the founding can be done under 12 hours.

Differences in the same manufactory.

93. It may be well to remark here that as regards hours, as in some other respects, each glass house, or rather each principal furnace, for some houses have more than one such furnace, is independent and complete in itself, as if it were a separate manufactory. In some cases one house does form the whole manufactory, but often there are several on the same premises, and sometimes others belonging to the same employer in other premises.

Accidental delays.

94. It is said to be impossible to secure any regularity, but generally speaking accidental delays are diminished, time saved, and uniformity approached just in proportion as the whole establishment is in good working order, *i.e.*, the furnaces, pots, fuel, and materials good, the hands steady and attentive, and the management efficient. On the other hand, neglect or defects anywhere are liable to hinder the work, and these may occur in so many details that it is said to be impossible to guard against them all, and often to discover where the fault lay, or at any rate in time to remedy it.

End of last journey.

95. The working, however, almost always ceases some time on Saturday, if not some time in the night before. Bottle makers in many places will not now work after 4 p.m. on Saturday, formerly they would work till 10 p.m. or later. Sheet glass makers usually finish by the Saturday evening, or before. In both crown and sheet and in bottle glass works, in occasional instances, work is continued up till midnight on Saturday, but scarcely ever into Sunday. (No. 49, 52, 185).

System in blown flint glass houses: Six-hour relays.

96. In all blown flint glass houses of any size throughout the United Kingdom there is a uniform system of work by two sets of glass makers working alternately in relays or "turns" of six hours each, day and night, from the time of beginning to work the metal till the time that it is worked out, this taking

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as long a time that relays are necessary. This takes on the average four days and four nights, usually beginning at 6 or 7 a.m. on Monday. Sometimes it ends rather sooner, or begins or ends, or both, as much as half a day or a day later, but the same set of hands always work in the corresponding periods of the 24 hours, thus having equal quantities of day and night work. Five days and nights is a long week, and not often made. I am informed by the manager of some leading works that with improved furnaces and good arrangements this standard may, he hopes, in time be reached, but that the working period will never come to exceed this amount.

In pressed flint glass houses: Eight-hour relays.

97. In pressed flint glass houses in the north of England the two sets of glass makers work in relays in the same way, but the turn is eight hours instead of six. There is also a break of about two turns in the middle of the week to refill the pots. The first turn begins at 5 a.m. on Monday, the second at 1 p.m., the first comes on again at 9 p.m. and works till 5 a.m., and so on, the turns changing weekly so as to divide the nightwork. This system was first introduced by Messrs. Sowerby and Neville about 12 years ago to avoid the inconvenience of a change of hands at midnight, and to save time by diminishing the number of changes, and this system has become general in that branch of trade. A small blown flint glass manufacturer in the same town has also adopted it, and much prefers it, as it allows of occasional full night's sleep.

In small works: Twelve-hour relays.

98. In flint glass works employing very small numbers of hands where the furnaces and pots are small, and common work made, a third system prevails, viz., the same set of glass makers work for 12 hours at a time. In most cases there are day and night relays, who change weekly, but in some very small places the glass makers work by day only, the pots being filled and the metal melted during the night. It is said by regular flint glass manufacturers that this system would not be possible in large works, and where flint glass of the superior kind is made, one reason being that the metal could not be got sufficiently fine without the larger furnaces and pots. In these small places work goes on in some for five, in others for six days and nights, or in some, in such a poor way of business as not to have regular work, only as the business requires. At one, work went on six nights and often seven, *i.e.*, stopping at 7 a.m. on Sunday, and beginning again at 7 p.m. (No. 133,) and once going on in the day of Sunday as well.

Six-hour relays considered.

99. This arrangement of six-hour turns has been the custom in the blown flint glass trade in this kingdom for generations, and is said to have originated probably in the inability of the men, owing to the heat, to continue the work for a period of 12 hours. It is however less heavy than other work, such as iron puddling, in which 12-hour turns are the rule, and other kinds of glass work, which, as shown above, men continue for periods of from eight or nine to 12 hours. Those who have worked in the six-hour as well as the eight or 12-hour turns concur in saying that they like the longer turn the best, as it gives them longer times unbroken for rest, and more of night sleep. (Nos. 158, 134, 130, 139, 140.) Allowance must be made for men being prejudiced in favour of their own practice, and inclined to speak well of it; but those who began with a prejudice against it have found reason to alter their minds. The length of sleep is obviously a matter of more importance to boys than men. It is true that in blown flint glass houses more delicate workmanship is required than in some of the other works referred to, or in the pressed flint glass, in which the eight-hour turns have been adopted.

Its bearing on boys.

100. It is however unfortunate for the boys. During the working part of the week six hours is the utmost unbroken period ever attained at any one time for rest, and out of this has to come the time spent in coming and going to and from work, washing, dressing, and meals, leaving a very short period indeed for rest, and none for fresh air and play, unless at the expense of the sleep necessary for young boys, especially at such hot and fatiguing work. If the usual week were extended to the five days, contemplated as possible (B., No. 96), this would take away some of the time which the boys now have for rest and play at the end of week, while it increased their labour. Even the short sleep is obviously liable to be broken by a boy having to wake himself, if it is night, or by the noise if it is day. (Nos. 120, 207.)

Boys work longer than men.

101. In most crown, sheet, and bottle glass houses the younger boys come, more or less considerably before the men, generally by as much as from one to two or three hours, to get things ready for them, and they also stay a short time, from a few minutes to half an hour, after the men leave, to clear up. This makes the period of boys' work to that extent longer than the time spoken of as the average length of journeys, so that in few cases is the boys' work much under 12 hours, and it is often 13 or 14, and in some cases 15. "On the average we are here 13 or 14 hours." (No. 184, &c.) The time is longest in crown houses and in bottle houses making only five journeys a week. In one crown glass manufactory the men are limited to 12 hours for making the amount of work required of them (No. 47), and in a bottle glass manufactory to 11½ hours. (Nos. 192, 195.) In flint glass houses also boys sometimes come half an hour before the men, to get things ready.

This unnecessary.

102. Whatever might be the difficulties occasioned by restricting the work of boys in the actual glass making, it appears that they would be slight if only this excess of the boys' work over the men's were cut off. The manager of a sheet glass house in one of the largest manufactories states that the boys generally come three hours before the men, but that they might do all that they have to do in half an hour. They came so soon "merely because it is the practice." (No. 48.) There is nothing in what they do which could not be done equally well by men. The same remarks would apply equally to other sheet and to crown and bottle glass houses.

Summary of hours.

103. The above account gives an idea of the regular proper length of boys' work in glass houses, as nearly as it admits of being stated definitely. It may be stated roughly, as varying with the branch of work, from 48 to 60 hours a week, and in some cases, either habitually or exceptionally, more or less, giving a wider range of from 40 to 70 hours. The return from a bottle glass manufactory in Scotland states, that "The hands usually work 14 hours five times a week." These numbers include the stoppages for meals or other purposes. Owing, however, to the irregularity of the system, except in flint glass houses, it is impossible to give an entirely accurate statement. Details must be filled up from the specimens given by the witnesses in their statements.

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Nominal and actual weeks: In flint glass houses.

104. The glass house week, however, is counted not by the number of hours, but by the amount of work done, a certain amount being required of each set of hands. In flint and bottle glass houses the week actually made and expected to be made is considerably in excess of the nominal week, often by nearly 50 per cent. or more. Thus in regular flint glass houses the stated week consists of 11 "moves" or portions of work, and the men's rules do not allow more than one move to be made in three hours. Hence the nominal week's work is 33 hours, and a fair actual week's work about 48 hours, it may be more. What is made over the 11 moves is paid for as overwork. The rule limiting the amount of work which may be made in a move, though meant by the men for their own protection, seems undoubtedly injurious to the trade and to them, as it checks individual effort and excellence. A flint glass maker, wishing to show how much more than the allowed amount could be made in a given time, produced 200 small articles in the time for which 72 was the fixed standard, but, as I was informed, he nearly lost his life in consequence, from the indignation of other men in his trade.

In bottle glass houses.

105. In bottle glass work the week, as already stated, consists of a given number of journeys, and a given number of bottles, usually about 63 dozen, is required to be made in a journey. But as a fact the number made is much greater, usually by nearly 50 per cent., sometimes double or more. The fact that men wish to have this overwork, as more advantageous to them, is mentioned as a reason why they would not like to have six journeys instead of five. This, however, is a mere accidental arrangement, and could of course easily be altered. Indeed it seems that in some bottle works where six journeys are made, the sixth journey is paid for as overwork.

Work beyond these limits.

106. The work of individual boys, however, is often in flint glass houses, and sometimes in crown, sheet, or bottle glass houses, actually much in excess of the supposed length of their proper hours. In the latter three kinds of house, the pots are worked out as far as is thought desirable, and have to be refilled at once, so that a boy cannot work beyond his usual amount, unless there are two or more houses in the same manufactory. But as the times of these houses being at work are liable to fall more or less apart, and are said to be seldom quite together, and, indeed, at one place to be purposely so arranged that "as "near as may be work shall begin in one when it ends in the other," a boy may be taken from one house to supply the place of a boy wanted in another, and it appears that this is occasionally done, and a boy has thus gone six journeys in a week, in works where there are several sheet glass houses. (No. 53.) So has another where there are only two houses, and "a good many of the other boys work over too." (No. 42. Cf. also Nos. 41, 183.) So in a kiln in which cylinders of sheet glass are flattened, a boy has worked over for part or all of the 12 hours in place of a boy in the other turn, and has thus worked 36 hours together. (No. 54.) A boy, 12 years old, who works as "drawer" in very large bottle works, from 5 or 6 a.m. till 6 p.m., had to "take in," in place of a boy who was away, till 2 a.m., and then slept in the furnace till 5 a.m., when his next day's work began. (No. 193.)

In place of other boys.

Or in other ways.

107. Apart from these ways boys may also be occasionally kept a longer time than usual in the works by accidental delays arising after they have been called to work. In this way a boy has been kept in large bottle works, though lying down to sleep part of the time, "twice for 20 hours, and "once for 24 hours, without leaving." (No. 184.)

Excessive over work in flint glass houses.

Arises from relay system.

108. These cases, however, from their nature are probably rare. But in flint glass works, in which the working of the metal goes on uninterruptedly, and boys are wanted either to supply the place of boys who happen to be away, or when a kind of work which requires extra boys happens to be done, such as press work, the length of time for which some have to work is wonderful. The remarks made in my report on the Metal Manufactures of the Sheffield district as to the unavoidable opening given to this where boys work in night relays at all (see that Report B., No. 73, 76) apply equally to this manufacture.

How far voluntary.

109. In theory the boy only stays from his own choice, and some who are more spirited and more independent in their circumstances actually do refuse. I have found rare cases of boys who have answered proudly that they never have worked over, and would not choose to do it. The fact, however, that the absence of a boy will throw out the work of the chair or set of men and displease them, and that working over thus will give the boy an opportunity of getting a little money for himself,—the only money, with the exception of a few pence usually allowed by parents out of the regular wages which he is allowed as a rule so to keep,—is in most cases a strong enough inducement to secure boys being found to work over when wanted. The term "working over" is applied not to work in excess of the nominal week, which is expected to be and is usually so made to a greater or less extent, but only in work in an intermediate turn.

Cases of excessive over work: With six-hour turns.

110. A single turn "over," on the system above described, involves 18 hours consecutive work, followed only by six hours rest for sleep and meals, and this subject to the other deductions noticed above (B., No. 100). One or more turns "over" are often made by a boy in a week, frequently three, sometimes more. A boy who has himself worked in this way 36 hours without going to bed, speaks of another who would work for 60 consecutive hours; "come on a Monday morning, say, and work straight on to "Wednesday night without going to bed." (No. 69.) Another has worked eight turns "over" in a week, which cannot imply less than 120 hours consecutive work, less two intervals of six hours each for rest. (No. 73, and note.) Another has sometimes worked five turns "over" in a week, implying a length of working hours, with a deficiency in periods of rest, much less extreme, indeed, but still startling. (No. 75.) Another has "worked as many as seven turns running, and five turns running, often." (No. 74.)

With twelve-hour turns.

111. In the small flint glass houses, working the 12-hour turns, a single turn "over" entails, of course, double the amount of work which it does in the six-hour turn houses, viz., 36 hours, and this is not unfrequently done. A man, now 36, who began the trade at eight years old, says, "Many a time, "even while I was a boy, I have been on 48 hours at a time in these small places till I could hardly "hold my eyes open, and I have been that way so as I couldn't sleep, because I was over tired. I was "forced to do it." (No. 130.) A boy, when about 12 years old, worked five such turns or 60 hours running, with a break of six hours, *i.e.*, from 7 on Saturday morning till 7 on Monday evening, making glass on the Sunday (not minding a furnace), except from 1 to 7 p.m., when he was fetched back just as he was

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getting to bed, a bigger boy having run home. On the faith of his expected Sunday night's sleep he had spent this interval in playing instead of rest. "Didn't like it at all. Was so tired I could scarcely "stand up." (No. 133.) Another says, "Have worked 36 hours together, *i.e.*, one turn over, but "never more at any one time. May do it twice in one week, perhaps." (No. 131.) A boy, 10 years old, has worked from 7 Friday morning till 7 Saturday evening. "Lay down a little on anything I "could;" and at a former place often worked half-turns over, making from 7 a.m. till 1 a.m. following, sometimes three times a week. (No. 138.) In all these cases of long hours it is important to bear in mind the amount of exertion noticed above as often required.

Boys in charge of furnaces. Sunday work.

112. In some of these small flint glass works in London, boys "stoke" or take charge of the furnaces, with or without other work, for turns of 12 hours. At one place a boy had to do this, besides his week's taking in, on alternate Sundays, and two or three times on successive Sundays; another boy, taking the alternate Sundays. "Got 1*s.* for it, and all my grub." Another does it for seven nights, another for six. (Nos. 130, 131, 133, 136.)

Boys in sheet glass flattening kilns.

113. The pushers in sheet glass flattening kilns likewise work in turns of 12 hours, changing night and day work occasionally. In one manufactory their work begins at 12 on Sunday night, and with usually a break on Wednesday night, ends at 12 on Saturday night. (No. 52.)

Drawers. Hours vary.

114. The hours of "drawers" in bottle houses vary. In some cases a larger number work only a few hours, *e.g.*, from two to six hours, in a day at it, doing nothing else, or combining it with other work, *e.g.*, before the bottle making begins, or in breakfast time (Nos. 183, 200, 206.) In some it forms the constant employment of a few. (Nos. 185, 193, 214.) It is usually day work, beginning at about 6 a.m. but in one case at least the drawers come on at the same time as the bottle-making hands, whenever the journey may be. (No. 210.) This appears unnecessary.

Hours out of glass houses.

Overtime at plate glass machinery.

115. In all other departments of glass work from 6 a.m. till 6 p.m. is the usual day. What excess there is calls for no special remark, except in plate and sheet glass grinding and polishing. In these the overtime is serious, not from being extreme on any one day, but from the length of time over which it is continued, which is such as to make the overtime appear the rule rather than the exception. I have understood, indeed, that there is or was a rule of the trade limiting the work to a certain number of hours in the week, but I did not learn this at any of the manufactories which I visited, and the limit, if it exists, must either be rather wide, or not very strictly observed. All the manufactories in which I found this work give evidence in one or more departments of at least 14 hours' work daily, in some cases 15, and at one place 16, and this not occasionally, but continued for at least several months. At one factory a polisher, 12 years old, has worked from 6 a.m. till 9 p.m., ever since he last came, *i.e.*, six months, and the previous winter for several months he and all the other polisher lads worked for several months from 6 a.m. till 10 p.m.; one of the boys working these 15 hours daily is only 10 years old, and a grinder, 11 years old, has worked 14 hours daily for the six months that he has been there. (Nos. 3–6.) At a second, the hours are about an hour shorter; the statements as to this covering about 18 months. But the smoothers, women and girls, one 12 years old, work from 6 a.m., or as soon after as they like to come, till 8 p.m., and have done so for nearly two years. (Nos. 8–12, 14.) A boy, now 14, five years' polisher at a third factory, says, "The hours "were from 6 till 6, but nearly always in winter, as long as the cold weather lasted, we worked over till "9 p.m. (No. 17.) This coincidence of late work with cold weather may, perhaps, receive some light from the remark in No. 2, that "a warm temperature is required, and it is found that work goes on "more quickly and better at the end of the day owing to the increased warmth." A boy, nine months a polisher in sheet glass works, the remaining factory, gives his hours as from 6 a.m. till 8 p.m., except Monday and Saturday. (No. 33.) The machinery runs the whole time, stopping only occasionally for oiling it and for relaying benches with fresh glass. This relaying of one bench, however, as I have seen it done, does not involve the stoppage of work at the other benches. But I was told by a manager that these unavoidable stoppages insure ample intervals for meals and rest. A member of one of the firms, in whose factory overtime prevails as a rule, at least of late, expresses his confidence that "when "we have more perfect machinery, as we shall have shortly, we shall be able to do without it," *i.e.*, working longer than from 6 a.m. till 6 p.m., which he has a strong opinion are the right hours of labour on moral grounds. (No. 2.)

VIII. Night Work.

Common to nearly all glass houses.

116. A pretty complete account of the night work usual in glass houses is necessarily involved in the foregoing account of the general system of hours. It shows that night work of boys prevails more or less in all glass houses. Plate glass houses may be disregarded, the boys in many of them being so few that they cannot be essential to the manufacture. Of others it is shown that in flint glass houses night work for six, eight, or 12 hours is almost universal, and that in crown, sheet, and bottle glass making the amount of night work is altogether uncertain, except in the sheet glass flattening kilns, on which the night work is for 12 hours. The necessity for it reaches its minimum in bottle glass houses performing six journeys weekly. The idea of doing away with night-work in flint-glass houses has been entertained, but seems scarcely to be practicable, in works of any size. (Nos. 56, 57, 113, 157.)

Some boys always kept on night turns.

117. It only remains to remark that in some of the small flint glass works, in which the 12-hour day and night turns prevail, some boys are kept permanently in the night turn, without the usual change to day work, to suit the convenience of masters or men who prefer to have certain boys by day working with them. (Nos. 133, 138.)

Exceptional out of glass houses.

118. In subsequent processes of glass work night work is not customary. In the plate glass works it has at times been tried in the polishing department, but in two at least of the three it is now avoided, if possible. "It does not answer. The machinery will not stand it properly;" besides objections to the practice itself. (Nos. 2, 8, 17.)

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IX. Meal Hours.

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119. In glass houses there are no stated meal-times, but as a fact one or more meals are taken during the working period, according to its length, in the intervals of work. Such intervals are needed for replenishing the furnaces, except apparently in the larger flint glass houses. In these it is customary to stop for about half an hour in the middle of the turn. But in some large pressed flint glass works "it is necessary to keep the work partially going in this interval to prevent the "moulds from getting cold." (No. 153.) A boy says "Stop to eat and start again, just as soon as you "get it like." (No. 154.) In the small flint glass works, with 12-hour turns, about an hour and a half are taken for meals.

Stoppages, but not stated. Flint glass houses.

Crown and sheet glass houses.

120. In crown and sheet glass houses a stoppage of about the same length, in some cases more or less, is spoken of, but in crown houses it is apparently less than in sheet houses, as one firm states, "about "half the time, and sometimes they prefer to go on without stopping at all or scarcely stopping. It "is as the head man requires." (No. 49.) The manager of a crown house in other works stated that "there is one stoppage, such as that just now (scarcely noticeable, J. E. W.) when the fire is attended "to, but it is not more than about five minutes." (No. 23.) But a boy, speaking of one house in the same works, says, that he had usually half-an-hour. Some reasons furnished from the nature of the work by one firm may account for the stoppages taken in crown glass houses being shorter than in others. (No. 49.) Some boys, however, say that they have no stop for meals. Thus in sheet glas works, in which the meals had been described in the Tabular Return as "optional," boys say "they "don't let us stop at all in all the time; we eat, but we has to work." (No. 42.) "Sometimes get a "minute or two, sometimes only a second; get a mouthful, have to run back to work, then, perhaps, "get a second or so again." (No. 43.) So, "Have not had a regular stop for a meal since I came this "morning (*i.e.*, at 10·30). Have sat down about half an hour altogether," *i.e.*, by 5 p.m. (No. 45.) So in a crown house, "Don't stop work for them," (three meals had that day,) "carry a pipe, then eat a "bit, and so on." (No. 46.) A manager says, "The men lie out by turns, but they do not give a boy "the same privilege. The boys, however, have plenty of time to eat." (No. 47.)

Bottle glass houses.

121. In bottle glass houses, &c., from one to three stops, commonly two, in some cases of 45 minutes, or from that down to 20, or a little less, seem usual; but one boy cannot tell how long he stops, "we keep no time. Don't all stop together, but go by turns." (No. 200.)

Work in meal-times.

122. What stoppages there are in any kind of glass house are not always clear rest for boys, but they are liable to odd duties in them, such as in one case drawing the arches, in others sweeping up, &c., and in work which admits of it boys take advantage of these intervals to handle the irons or try blowing glass, so as to fit themselves to learn glass making.

Meals in work place objectionable.

123. The meals are taken in the glass houses, a practice which, to judge from the statement of a medical gentleman (No. 232), is liable to some risk. The practice also keeps them within call for any service which may be required of them by the men, and ready to begin regular work again the moment that the glass makers and the furnaces are ready. It is no doubt on account of this, as well as of the short times often taken, that it is considered that boys must take their meals on the spot.

Objections to stated meal-times.

124. The chief loss spoken of as likely to arise from compulsory fixed stoppages for meals is the diminution of the amount of working time to that extent, which, if the work were rather behindhand from delays, might possibly cut off a portion of a working period at the end of the week, though scarcely so in flint glass houses. (Nos. 49, 180.) A difficulty, not apparently insuperable by care, might be occasioned in crown glass houses (No. 49), and another difficulty, which also might apparently be got round, as by keeping the moulds warm in some other way, is referred to in pressed flint glass works. (No. 153.)

Allowance for meal-times necessary.

125. A certain amount of heat beyond what is usual at present might also be going to waste, but it seems likely, not equal in money value to the waste of animal power now going in glass houses throughout the kingdom from growing boys not having enough quiet time to eat their meals at their ease, with a little rest afterwards for digestion. Anyhow it cannot be doubted that glass house boys, undergoing such labour as many of them do, for their own well-being imperatively require more or longer intervals in the course of their work than many get. Glass house work requires a great amount of support. (Nos. 26, 59, 183, 180, 203.)

A difficulty in stated meal hours.

126. It is not unimportant to call attention to the fact that in glass houses working by journeys, which are constantly shifting their position in the 24 hours, the meals taken in corresponding portions of the journeys, as well as the sleep which precedes or follows, are constantly shifting in like manner. So long as journeys shift thus, it would be difficult to name definite meal hours, if desired, and the meals, notwithstanding the shifting, would probably, should any regulations in regard to them be thought desirable, be better fixed by reference to the position in the journey than in the 24 hours.

No meal-times in plate glass grinding, &c.

127. In plate glass grinding and polishing, and in that of lighthouse glass also, there are no fixed meal-times, the machinery never stopping, except occasionally when it cannot be helped. Boys get meals in these stoppages, or while someone else takes their place, or, failing either of these, eat it at their work. Fixed stoppages for meals would cause the same loss as is incurred when machinery of any kind is stopped for meals; but it does not appear that there is any sound objection beyond this. The scratching of the glass from the stiffening of the sand or rouge, "would not matter in the grinding" (No. 2), as polishing follows; and in the polishing, in which it is feared "it would be an injury," it is considered at another manufactory that "an hour would not be long enough to do that." (No. 8.) These processes, it must be remembered, go on for the periods above named, *i.e.*, for from 12 to 16 hours, and cause a deafening noise, with constant irregular motions perplexing to the eye. An escape for a short time into a quiet place and fresh air would be a great relief. Smoothers have meal-times, but occasionally work in them.

Regular in other departments.

In other departments of work an hour and a half, and in some Scotch works two hours, is allowed and taken for meals, but flint-glass cutting shops, owing to their state, and the quality attributed to the atmosphere in them, are not desirable places to take meals in, if it can be avoided.

X. Holidays.

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Intervals in work in glass houses.

128. In glass houses, the part of each week not occupied by the journeys or turns, is available as a holiday. The interval between two journeys in crown and sheet glass houses is generally as much as 30 hours, "from 29 to 32 or 33 hours," "30 hours," (compare Nos. 44, 46, and 47), and in bottle houses from 13 to 16 or 18, all allowing more than is required for sleep. The intervals are often much longer, owing to delays in the founding. At a crown and sheet glass manufactory, the spare time was calculated by the firm as equal to two whole and two half days in the week. (No. 49.) In most, work is finished by 4 on Saturday afternoon, but in some cases is later, occasionally as late as midnight, but scarcely ever later than that. In all the larger flint glass houses, Saturday, and usually more or less of Friday, or in some cases of Monday, is time also not occupied in working the glass, and therefore is available for leisure by the glass makers, deducting a portion required for sleep, after the end of the working week.

129. But in the glass house departments of flint glass, as well as other works, boys are found, out of the working period, doing odds and ends of work, such as getting things ready for work, or helping while pots are being set; or they come down, as one says he does, on Sunday, to see how the founding is getting on, and if there are any potsbroken, as they can calculate from that whether the beginning of work is likely to be delayed. In some large pressed flint glass works, a boy says, "after the "regular work is finished, we are forced to come again Saturday morning to do odd things, and are "fined if we don't." (No. 149.) I have often found boys in glass works of all kinds in this way out of the working times. They like to hang about and see what others are doing, or to talk and play, or to wait till the set in another house are ready to go. A boy 10 years old says, "We were 'laking' about" (at 11 at night) "till the other holes had got done. When we have done we like to 'lake' about, whether "we are tired or not." (No. 195.) Much of the time which might be turned to account goes in this way. In fact, as I have been told, it is difficult at times to get boys out of the works at all. In some of the smaller flint glass works, Saturday is occupied in work, and, as remarked in rare cases, boys have to work through Saturday or Sunday night, or both, and one boy speaks of making glass on Sunday. (No. 133.)

Other holidays.

130. In other departments of glass work, a half or short day on Saturday is common, and the other holidays probably are the same as those in other kinds of day work in the neighbourhood. At a large plate glass manufactory, where there are holidays at Whitsuntide, Christmas, and the wakes, these are at times followed by overwork to make up. In some Scotch bottle works there are four holidays in the year, two days at the new year, and two at Glasgow fair in summer.

XI. Treatment.

Need of inquiry.

131. Till I had visited a number of works, chiefly flint glass, I had hoped that it was not necessary to give attention to such a point. I was led to alter my mind. I would gladly pass over the painful results brought out, did I feel that I could properly do so. I prefer not to use words of my own to characterize the treatment which it is shown that boys meet with, and in too many cases and in too great a variety of place and circumstance to be regarded as merely exceptional. But I ask attention, as I feel that I cannot, consistently with my duty to the class concerned, help doing, to the simple, and, so far as I could judge, apparently entirely trustworthy accounts of some of the boys, and two or three other witnesses. From the nature of the case, I feel bound to keep back the names of some of the boys, and also of the particular places in which they work, so as to avoid giving a clue by which they might be identified as the boys examined there by me. This is my only means of guarding them from the risk to which their evidence might expose them from fellow-workers of the class of whom they speak, as I have had to assure a boy that I would do.

Ill-usage.

132. The kicks and blows inflicted by men on the young helpers, who are so useful to them, are bad enough, but the curses and bad language, which cause no bodily pain indeed, but without doubt harden and embitter the young mind, are probably, at least by the better class of boys, dreaded as much, and in their lasting effects must be worse. Two or three boys have spoken to me with horror of the language used to and around them. A boy ill in bed told me "They use such bad language and curse "at you so that I have come roaring for it at one o'clock in the night. One man, for whom I worked, "was very bad. He has got me up in a corner and knocked me down and kicked me as I lay, and I have "had bruises all up my back from it. He would be like mad at you sometimes." (No. 224.) Another boy, also ill in bed, after speaking of the like swearing, says, "They are awful brutes, and would "do anything at you. I have seen them knock boys down and kick them terrible when on the "ground, so as to make bruises on the body and legs. Once I was taking in a glass and fell down "and broke it, and when I came back and told the master (workman?) he jumped up and run at me, "and knocked me down and kicked me. There was a great bruise on my thigh from it. I saw a man "hit a boy of about 12 on the back of his head with the blowing iron, which had some glass on the "end of it, and cut his head open and made it bleed." (No. 220.) Another speaks of the same language, and hitting with the iron, adding, "When they are in a passion they'll say anything or do anything to "you; its nothing to them." (No. 222.) Another says, "Sometimes the men will tell you to jump and "do their liking; at other times they will just knock you down." (No. 184.) Another, a boy of 12 years old, says, "Have been struck with the 'double knife' so (clenching his fist). One man hit me over the "head with a het (hot) pipe, but it did not burn me; I had my cap on. * * * * Boys many times "have to run off from work because they are frightened of the men." (No. 226.) Another, a boy of 11 years old, says, "Have been knocked down two or three times, and have seen others what work with "me knocked down. They kicks us too on our backside. Have been hurt so myself, and seen a good "two or three hurt by it so that they could not go on with their work." (No. 229.) A manager states a late case in which one of the men "knocked the boy down, and kicked him repeatedly when down, six "or eight times." The police were applied to, but "somehow the man was let slip." (No. 206.) A master says that "The boys are very badly treated. The men are brutal, &c., kick them and cuff

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"them too hard, and perhaps make their mouth bleed." (No. 148.) Another boy of 11 years old received from a man in the glass house a kick which, as the surgeon who attended him states, "had "cut the lip completely through, and knocked a tooth out. "If the kick had been on his head the "boy might have been killed." (No. 230) See generally Nos. 219 to 231 inclusive, and some other passages here and there in the evidence, *e.g.*, Nos. 84, 118, 133, 134, 195, 202, 203, &c.

Treatment improved.

133. It is right to remark, however, that while several persons have spoken to me of the treatment of boys in glass houses as having been formerly very bad, most whom I have asked say that there has been a very great improvement of late, and that they do not believe that such treatment now exists, at any rate in the works under their care, or in those with which they are any how acquainted. One of the boys, however, referred to was found in works in which the manager expressed such a belief. But as a rule there is no doubt that the general conduct of the men and the treatment of the boys depend very greatly on the amount of attention bestowed by principals, and the directions which they give to their managers on the point. Where, as is often the case, special instructions are given on the point, and any corporal punishment by a workman forbidden under strict penalties, and a responsible and efficient general manager, distinct from the mere working manager or head glass maker of a house, is employed, a great security is afforded, though even this is not always effectual. But the control of a mere head workman is not likely to be sufficient for this purpose, though useful as regards the work itself. He is too much occupied with his own work to see what is going on, perhaps the other side of the furnace, and thus out of his sight.

How.

Are complaints likely?

134. I have also been frequently told that the working class, including boys, are now so independent that they would not stand any ill-usage, but would at once appeal, if not to their masters, to the law. There is, however, probably, much truth in what one of the boys says, "We do not tell the master, "they would beat us worse then" (No. 220; cf. also No. 230), apart from the common honourable feeling in working boys, as amongst school-boys, against telling tales. And no doubt too, as stated, "Parents often send their boys back when they run away" (No. 202.), perhaps thinking it, as it may sometimes be, a mere excuse for idleness. I should remark that some boys, while speaking of their ill-usage by some men, have spoken of others as very kind to them.

Little importance attached to the matter.

135. But I must here own to some surprise at the little importance which I have found attached by official persons and others not engaged in the manufacture who have had occasional cases of ill-usage came under their notice, to this question. Wishing to learn the particulars of a case, in which a man had been summoned for assaulting a boy in a glass house, but which was "not proven," and the books at the police office being too voluminous to allow of my being referred to them, I applied to the mother, but she, perhaps suspicious of my object, or at any rate unwilling to have the case brought to notice by me, assured me that it was nothing but a simple correction such as the boy deserved. Why then was the man summoned? The charge included, besides other words of assault, "strike, "throw to the ground, and otherwise abuse," but these words may be part of the common Scotch form.

More than mere correction.

136. What boys speak of as hittings, even though with the iron, or kickings, may, sometimes, be merely slight blows, meant as a proper correction for a fault, and such rough and ill-taught boys, as a large mass are, must often be very provoking, sometimes from carelessness, sometimes from fun and mischief. "It's for my own good," says one boy. (No. 172.) But it seems plain that in many cases the chastisement exceeds the bounds of fair correction, and also that it is administered sometimes when there is no fault at all. Perhaps a boy, as in one of the cases quoted, "fell down and broke it" (a glass), or, as another says, "You know, you can't help spoiling a few things, and if you do spoil one "they say nothing, but kick you." And when boys work such an excessive number of hours as referred to above, what may seem carelessness may plainly often be only the result of positive inability to work properly, arising from sheer exhaustion.

137. Out of glass houses I did not think it necessary to make much inquiry as to usage, and have no reason to believe it to be anything but good.

XII. Accidents.

Burns in glass houses.

138. In glass houses no machinery, except presses worked by hand, is used, and accidents of other kinds are seldom serious. They are chiefly from burns and cuts from the flying of hot metal, or from getting in its way when wielded or carried about on irons, or falling on it when left about on the ground; slight, though painful, external injuries, particularly about the face and hands, from these causes are very common. A mere burn on the ankle from hot glass falling into the boot has been known to lay a person up for two months. (No. 202.) Occasionally clothes get burned, and even flame. (Nos. 42, 43.) It strikes a stranger as wonderful that burns are not constantly happening, and I have found it difficult in a busy house, where many workers are carrying metal about, to choose a safe place to stand in, and even then have become aware of the approach of masses of hot metal only by feeling the heat close to me. But boys soon get great experience and dexterity in being in the right place at the right time, and getting about their work safely, especially after a burn or two from the want of these. Putters-up in bottle houses need to be very careful, and, on this account partly, must have had some experience of a glass house as takers-in before they are fit for their work.

Grinding machinery, &c., and cuts.

139. Out of glass houses accidents are rare, and not often serious. They consist mostly of cuts from the breakage of glass, or hurts from getting caught in the machinery. That used in plate glass grinding or polishing is the kind in which there appears the chief risk. An upper surface is moved rapidly about over the surface of the glass to be ground, which lies on a flat "bench" or table. Parts of the moving surface, or the cranks which work it, shoot rapidly backwards and forwards, sometimes with very irregular motions, and thus in one moment project over a space which a moment or two before looked all clear for standing on, and close to where boys stand.

Fencing desirable.

140. I made no inquiry on the point, and there may, therefore, be difficulties of which I am not aware, but it strikes me that a rail marking the limit which could not be passed with safety, and which would clearly show if a boy got within it, would be an advantage as a security without interfering with the work. (See, however, Report of Children's Employment Commission, 1842, App. l. 16, Nos. 48,

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49, 52–57.) In one case, when I wished to pass down a grinding shed, in which the space was somewhat narrowed by a temporary obstacle, it was just doubtful if there was clear room, unless I timed my passage to the exact moment, and I was therefore taken round by another building. I have also had to be careful in standing to ask a boy questions. Some cog wheels which I saw in one large polishing shed close to the ground, and amongst which boys work, might with ease, and certainly should, be covered over. One boy had lost an arm, another a leg in them. Serious accidents, however, from any machinery seem to happen but seldom, and then chiefly from wilfulness or more than usual carelessness. The only fatal case which I heard of was from a boy stepping on a table while at rest, but unfortunately at that moment put in motion by another boy.

141. The surgeon who attends some works employing 300 children and young persons, besides many hundred adults, where machinery of this kind is used, and large quantities of crown and sheet glass are otherwise handled and cut up, states that cuts requiring his dressing "occur several times a "week, almost daily, but they have never occasioned loss of life or limb." (No. 22.)

XIII.—Wages.

Boys' wages in glass houses.
Very high in bottle houses.

142. In the lowest stages of glass house work the lowest wages paid to boys, including the over work, or excess of the actual over the nominal week, usual in many, are about 5*s.*, sometimes 1*s.* or so less. In these stages boys are said to be paid at a uniform rate for one kind of work in the same place without regard to age. Boys' earnings appear to be highest in bottle works. In Glasgow takers-in get from 7*s.* or 8*s.* to 10*s.* a week, and putters-up 1*s.* or so more. At one manufactory there the takers-in get from 10*s.* to 13*s.*, and according to the master even 15*s.* At two others the fixed wages are 5*s.*, and at one of these the overwork sometimes is enough to make up the whole amount to 11*s.* In Dublin a taker-in, a boy, only 11 years old, gets 6*s.* or 7*s.*, the fixed wages being 4*s.*, and the others, doubtless, as much. At a town in the north of England a taker-in, a boy only 11 years old, gets 8*s.* or 9*s.* usually, and has got 9*s.* 5*d.*, his fixed wages being 5*s.* In Yorkshire a boy, only 10 years old, gets 8*s.* 6*d.* a week as putter-up.

Elder boys and men.

143. As boys rise to the stages of regular glass making, their wages rise in proportion, varying with the terms of their apprenticeship, if apprenticed, or their proficiency in work. Some have reached the highest stage long before being grown up, some never reach it at all. The minimum of wages to be paid to flint glass blowers was agreed on by the masters and men, at a conference in 1859, at 22*s.* for workmen, 16*s.* 6*d.* for servitors, and 12*s.* for foot-makers, per week, *i.e.*, of 11 "moves," or practically 33 hours, more being paid for the usual moves "over," increasing this amount by probably towards a half. The actual wages would, no doubt, with fair workers, be some way above the minimum named. A bottle glass manufacturer states that in the then current week his hands would make as follows; viz., finishers, from 6*l.* to 8*l.* a week; blowers, 3*l.* 10*s.*; gatherers, 2*l.* 5*s.*; putters-up, 1*l.* 5*s.* to 1*l.* 7*s.*; takers-in, 15*s.*, and that these were not much above his late average; but such earnings are probably exceptional.

At grinding and cutting.

144. Plate glass grinders and polishers get 4*s.* 6*d.* or 5*s.* a week, or, with overwork, about 2*s.* more. Some of the younger females who smooth, working with relations, get no wages, but have a trifle given them to spend. The smoothers generally are said to get good wages. At flint glass cutting, boys rise from 4*s.* or 5*s.* a week, but some odd boys, who merely wait on men in the shops, get less, *i.e.*, down to 2*s.* 6*d.* There are several other rates for miscellaneous work.

Small benefit to the boys.

145. Boys generally get a trifling part of their usual earnings, such as a few pence, to spend for themselves, and also what they make by working over out of the usual course, as by working in another boy's place. Sometimes 6*d.* or so is put by weekly for buying a boy's clothes, or some such purpose. But there does not seem to be much encouragement to boys saving; and one instance struck me as very discouraging to provident habits in a boy. A boy who gets 6*d.* allowed him by his parents out of 10*s.* or 11*s.* a week, had saved up in this way 17*s.* "But when my little sister died they buried her "with it. Father and mother told me to draw it, and the bank man asked me, 'Was I going to draw it?' "and I told him it was to bury my little sister. I have not put by any money since." (No. 207.) He will, doubtless, be likely to make sure of his sixpences for himself in future, by spending them at once, *e.g.*, in going to "see niggers," as one boy spends his, or in some present way. His father is regularly employed in the same works. The boy says that he has "no clothes" for church-going, no trousers but his working pair. Indeed, in too many cases, the use made of the very high wages is very indifferent. Some bottle makers are spoken of with a weekly score of 25*s.* a man, for drink, against them.

XIV. Influence of Employment on Physical Condition.

Glass house work considered healthy by many.

146. The mass of employers of any importance, or their representatives, consider glass house work to be healthy, notwithstanding the exhausting nature of the work, the variations of temperature, irregularity of sleep, and other apparently unfavourable circumstances already referred to, provided that men are temperate. Some of the men whom I have asked are of the same opinion. On this side of the question it is said that the men in general enjoy good health, and that many continue the employment to a considerable age, *e.g.*, up to 60 or more, and I have seen several elderly men at work. This is attributed in part to the very nature of their employment, their work furnishing considerable muscular exercise, and the perspiration caused by this and the heat keeping them free from common complaints. As a proof of general strength, one manufacturer states his belief that many prize-fighters have come from glass houses. From these facts they infer that there can be nothing in glass-house work unfavourable to boys, and say that as a fact they do not find any bad effect amongst them. The opinion of the medical attendant of some large crown and sheet glass works is to the same general effect, subject to certain qualifications. (No. 22.) Many of these opinions are entitled to much weight.

Intemperance.

147. All the evidence seems to show that the healthiness of the work as regards men depends greatly in this, as in so many other employments, upon their temperance, which, however, in this work the very heat and exhaustion make more than usually difficult, and intemperance is agreed to be still very

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general, though much diminished in many cases of late. This tendency to drink is illustrated by the fact that in visiting glass houses I have repeatedly been asked, more or less directly, for money for "drink," a request which has never been suggested to me in works of any other kinds. I have been followed and importuned for it, and quite unable to make a man understand that in my capacity it would not be right for me to give anything. A number of elder glass makers are unhealthily and uncomfortably fat, which is attributed to the amount of beer which they drink. (Nos. 134, 130.)

Eyesight.

148. The glare and heat of the furnaces affect the eyesight of those who have to stare into them to watch their work, but this does not fall to any extent to the lot of boys.

Bad effects on health.

149. It is plain, however, that under ordinary circumstances even men do suffer much from the heat and exhaustion, and that in several cases the work tends to bring on, or at least develope, affections of the chest. This result, which is attributed in part to the strain on the lungs in blowing, is naturally most likely to be found in persons who have worked at blowing too early, or of a too constant or heavy kind, or are naturally inclined to weakness of chest. The son of a large bottle glass manufacturer speaks of a "great mortality" amongst glass makers. A working flint glass master in London, now little over 40, has "known a hundred glass blowers die." (No. 134.) But most of the injury is attributed to intemperance and careless habits. In hot weather in summer the heat is very exhausting, and even men are known to turn faint, and have to give up work. "Then sometimes even the strongest men "have this faintness come over them," says a bottle works manager. A flint glass blower has fainted himself, and known other men "turn faint, and obliged to knock off." (Nos. 206, 134, 158, 130, &c.)

Boys more liable to be affected. Medical opinions.

150. Such effects being felt even by grown men who have become hardened to the work, cannot well be less felt by young or growing boys working under such conditions as described above, and thus exposed to the same or like influences. The statements of some medical witnesses (Nos. 230–235, 245), are referred to on this point, particularly that of a gentleman (No. 232) who has had ample experience of the bottle glass manufacture, both as a medical man and as having been practically engaged in it. A flint glass blower speaks strongly on the point. (No. 59.)

Physical condition of boys.

151. It is clear from the boys' own accounts and evident condition that they do often suffer not only from the immediate effects of their work in exhaustion, languor, and headache, but also from chills on exposure to cold air, causing in some cases serious chest and other affections. The general appearance of boys who have been any length of time in a glass house is, as a rule, decidedly unfavourable. Their

Legs and feet.

complexion is usually pale and unhealthy, and the bodies of a great number are slight and small for their age. Some are very ill grown about the legs, a fact probably attributable to the excessive exertion of these limbs. A medical witness states, "Nearly in all cases there is great weakness of the "knees and ankle joints, so much so that the knees press against each other. This * * * gives the "boys the appearance of being cripples." * * * "I have frequently seen the little fellows with "blistered hands and feet, and scarcely able to hobble along." (No. 232.) The feet of takers-in get sore and blistered, especially in summer, with the floor "so hot, and the perspiration on their socks and

Colds.

"shoes," often old and thin, and the boys ill looked after at home. (Nos. 134, 133, 215.) Many have coughs or hoarseness, and complain of these as brought on by the heat, and by chills from going out into

Weariness and sleepiness.

the cold, or from cold water. Not unfrequently they fall asleep at work from the heat or weariness, or both. A strong-looking boy of 13 years old, a taker-in in pressed flint glass works, says, "When you "come to work at 9 at night you are very sleepy, and have to sing to keep awake, and the same in the "day sometimes. It is through the heat." * * * "With standing before the heat so and then "drinking cold water your head turns a kind of dizzy. If we could get a chance of it we would be "always drinking pretty nigh." (No. 149. So also Nos. 69, 23, 25, 104, 118, 119.) Others also

Effect on head.

complain of their head. A boy of 11 years old, a shovelholder in a sheet glass house, says, "Have "the headache very much, and most when working two journeys running;" and another, older, working with him, "Have the headache very often; am never more than two days without it; am giddy "sometimes with it." (Nos. 42, 43.) A putter-up in a bottle house who complains of "the heat and

Fainting.

"sweating," once at least) "had a fit from it and fell down" at his work. (Nos. 207, 206.)

Drawing arches.

152. Drawing arches is not unnaturally the part of glass house work most universally regarded as unhealthy. A girl 12 years old, who, however, works only four hours a day at it, but came, she says, at eight years old, complains very much of her head and throat, and was told by her doctor to give the work up in summer. (No. 178.)

Blowing.

153. From the constant exertion of blowing, the muscles of the cheek sometimes become strained and relaxed, and the cheeks then in blowing swell out like large balls. This, as pointed out to me by a medical man, is an index of the amount of strain which must be going on in more vital organs.

Evidence compared.

154. The above are merely illustrations of the kinds of physical effects which appear to result from the work as carried on, but they are fully borne out by a very general agreement of the younger workers examined, as well as by other evidence and my own observation. The different opinions expressed by several persons may be in some degree accounted for by looking at certain facts which must not be forgotten.

Present glass makers represent the strongest.

155. Many glass makers are muscular and active men, and doubtless enjoy good health, as represented, notwithstanding an excessive spareness of flesh or a worn expression of face, which may often be observed. Most, no doubt, as is the custom, rose from being glass house boys, and probably cannot have received much injury, as they have held out so well. But from the nature of the work, and in the heavier branches more particularly so, a person is not likely to rise to the position of a glass maker, or at least of any but the inferior work made in small places, unless he has muscular and constitutional energy and strength, and in some work to a very considerable degree. (Nos. 84, 203, &c.)

Large proportion of boys who leave the trade.

156. The surplus of glass house boys over what are required to supply the vacancies amongst actual glass makers must in some cases be very considerable. Some idea of what this surplus must be in flint glass works is given in the elaborate statement of the manager of some leading works. (No. 57). Boys coming there as takers-in between the ages of 11 and 13, usually leave at about 14 or 15, "as from "the unskilled nature of their employment there is no progression of wages, and there is not much oppor-

"tunity of rising to a higher position." Out of 80 or 90 employed there as takers-in in the course of eight or nine years, 12 being the full number at any one time, only four, or less than five per cent. have been advanced at that place to be foot makers, the lowest stage of actual flint glass making, "the other foot-"makers' places being supplied by persons who have received their training as foot makers elsewhere, "or who have descended from a higher stage." (No. 57.) Many, no doubt, shifted to other works, but promotion cannot at any place take off a large proportion. (See also No. 165.) A promising boy is likely to be kept till a vacancy offers. The masters are restricted by the trade union rules from "putting on," *i.e.* as glass makers, more than a very limited number of boys, *e.g.*, according to the rules as they stood a short time back, and, so far as I am aware, still stand, only "one to three chairs (or sets "of hands), two to five, and so on in proportion," the object being to promote the interests of the men by limiting the supply of trained hands available to masters. In bottle houses, two out of each "hole" or set of five do mere boys' work, and it seems that something of the same principle must necessarily hold good as in flint glass houses, though a bottle manufacturer thinks that nearly all now get promotion. (No. 180.) He allows that the great growth of the bottle manufacture of late years "creates a larger "demand for boys to be taken on in the trade."

Likely to include the weakly.

157. The surplus who must thus go off into other employments or inferior glass work, as they become too old for mere boys' work in glass houses, include no doubt the least efficient, and probably most whose health has been much impaired, and the bad effects, where they exist, are thus likely to be removed from the notice of regular glass manufacturers. (No. 157.)

Effect of night work.

158. As regards the effects of night work on those engaged in it, there is a common belief on the side of employers that it is not injurious, and some rest their objection to legislative interference partly on this ground. It scarcely seems to need medical or other authority to prove that night work is in itself undesirable, especially for boys, if it can be avoided, though such authority is not wanting. (Nos. 22, 230, 232, 233, 234.) See also the statements of boys and others. (Nos. 43, 149, 158, 159, &c.) The common practice in iron works of changing the night work week by week, points to the same conclusion. It was remarked to me by the surgeon of a hospital, of a boy who had come as a patient from some iron works, that he had the enlarged pupils usual in those who work much at night. I am also informed by the resident physician of one of the London hospitals, that it is found absolutely necessary to give the nurses change from night work, as their health would otherwise break down.

Low condition of body during the night.

159. The medical men, of whom I have questioned several on the point, are unanimous that not only is exposure to daylight essential to full health, but that the body is in a lower condition, less equal to exertion, and more susceptible of injury during the night, especially that part of it which follows soon after midnight; and I was informed by the hospital physician just mentioned that the conditions of the body which prevail in different periods of the 24 hours had been ascertained by a long series of observations, the lowest being in the period following on midnight. The importance of daylight and the effect of night work are also spoken of by a medical gentleman quoted in the evidence furnished by me on the "Metal Manufactures of the Sheffield District" (*q. v.*, Nos. 283, 284.)

Absence of special diseases.

160. I should not, however, close these remarks without adding that on the whole there is no clearly marked class of serious disease generally agreed to prevail amongst glass makers, such as is found in the case of some other manufactures. The chief effects, where any are felt, are probably those resulting from the exhausting nature of the employment, or from chills to which the body is exposed when in an exhausted state, or arising mostly in persons of weak chests from the nature of the work, and likely to be attributed to common colds.

161. The extract from the census given above (B. No. 32.) shows that glass work is one of the occupations in which the proportion of persons in the lower periods is high as compared with those in the upper periods. The number is highest in the period from 15 to 20 years, viz., 2,330; from 20 to 25 years it is 2,102; and from 25 to 30 years, 1,717, or slightly above that in the period from 10 to 15 years, which is 1,569. In the period from 40 to 45 years, the number has declined to 951, and in that from 60 to 65 years to 293. The causes which seem likely to contribute most to exhaustion of vitality are found in the glass house departments of the work.

Flint glass cutting not considered healthy.

162. There is a general agreement amongst both employers and workpeople that flint glass cutting is less healthy than the glass house work, owing chiefly to the use of putty, and the more confined and sedentary nature of the work. Colic and costiveness, and loss of power in the hand or thumb, or "putty drop," or a feeling of lowness and fatigue, result in some cases. (Nos. 62, 63, 65, 79, 94, 97, 98.) One of these witnesses (No. 79) attributes the drop of the hand to the strain from clutching the glass tight. The effects, however, are of a kind which it takes a course of years to fully develope, and they are not noticeable to any important extent amongst the few young engaged.

Plate glass polishing.

163. The rouge or red powder used in polishing plates or sheets of glass is not noxious, and, according to the experience of the medical attendant of large works, has no effect upon the lungs or air passages. It causes constipation, but "it is not a serious ailment." (No. 22.) A well-known London physician, Dr. B. W. Richardson, in his evidence given in that collected upon the "Metal Manufactures of the Birmingham District," (*q. v.* Third Report, b. No. 751,) states, "In my practice I have observed "in other (*i.e.* other than glass paper) manufactures in which girls or boys are employed great evils "arise from the inhalation of dust and (amongst other kinds) from rouge dust."

Other glass work.

164. Smoothing is fatiguing for girls, and makes the shoulders and legs ache. Other parts of glass work call for no particular notice.

XV.—Moral Condition.

Glass house hours make school attendance extremely difficult.

165. It is plain that work in a glass house with such a system of hours as described, when once begun, makes any further instruction in day or evening schools at least highly improbable. It does not indeed make it absolutely impossible, but it throws such extreme difficulties in the way as can only be overcome by extraordinary exertions, which of course can rarely be looked for, and, if made at all, can hardly be maintained. Case after case is mentioned where efforts have been made by employers

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or men to get up a school for the boys, but have been given up in a very short time chiefly from the want of interest shown by the boys, and the difficulty of getting an attendance. This is only natural. Though glass houses of most kinds leave certain intervals of spare time in the week, yet these are altogether uncertain and variable, and often fall at times when they cannot be turned to account for school purposes. "I was so often fetched away for work." (No. 42.) The boys, too, are often tired, and physically disinclined for school (Nos. 157, 184, 59, 84, 165), and, in any case, unsettled, and not disposed or likely to make a systematic use of their spare time.

Flint glass house hours.

166. In flint glass houses, except the smallest, Saturday is a leisure day, though work may occasionally continue till the morning. But Saturday is not a day on which much is done at schools. On Friday or Monday, or parts of them, a boy may have to be at work or not, or taking rest, as it happens. The six-hour turns leave no proper time during the working period of the week. The Messrs. Osler, of Birmingham, have made great exertions to induce their boys to attend a night school, paying the fees, and giving a bonus for good attendance, with some results. (Nos. 56, 57). On most nights the boys in the first turn are at work, and cannot go, while those in the second can only go at the sacrifice of part of their short period of rest, which a workman wished to bring to my notice, though otherwise approving of school. "This set leave at 7 p.m., but if they go to school then till 9, as they have to be "back at work about midnight, it leaves them only two or three hours for sleep, and that ruins the "constitution." (Nos. 59 and 58.) The difficulty must necessarily be the same in all regular flint glass works. A Scotch firm require reading and writing as a condition of employment, but find a difficulty as to this in the glass house department. (No. 165). The Messrs. Pellatt have or lately had a school for their works.

Crown, sheet, and bottle glass house hours.

167. In most crown, sheet, and bottle glass houses the intervals of leisure fall at constantly varying hours of the day or night, depending on the journeys, and if there are two or more houses in one manufactory they are likely to vary, more or less, from each other, so that it might be difficult to get the boys together at one time. The difficulty arising from the irregularity is illustrated by a case in which a manufacturer built a school, and paid a salary to one of the workmen as a teacher, and the school-time "was arranged to suit the work, *e.g.*, if a journey was finished at 4 a.m., the man would take "them till 6 or 7, or it might be before a journey began." (No. 209.)

Spare time seldom turned to account.

168. The number of boys at one manufactory, or who can be got together at once, is rarely large enough to employ a regular schoolmaster, and probably few independent schools would care to take in boys at any chance time, even were a boy disposed or forced by his parents to go, which seems to be very rare indeed, though I have found such cases. Glass house boys in particular, from their neglected and backward condition, are not likely to find much favour as mere casual attendants at an ordinary school. (No. 49.) The case quoted is instructive, but not encouraging, showing that, with an estimated average of two days and two half-days in a week off work in crown and sheet glass works, and with every wish and exertion on the part of the employers to turn this to account for education, they have been obliged to give up in despair.

Instance of enforced school attendance.

169. The schools established by the Messrs. Chance, of Birmingham, of which some particulars are given elsewhere (No. 20), furnish an exception deserving particular notice. I found the schools not only still in full work, but all boys in the works under the age of 18 who were found to be below a certain standard in reading, writing, and arithmetic had been lately required to attend evening school. This followed upon an examination, which the firm had thought it desirable to have made, with a view of ascertaining the educational condition of the young employed in their works.

Difficulty as to Sunday school.

170. Even Sunday is more or less interfered with by the work of the week, being wanted for rest and fresh air, rather than the confinement of schools or places of worship. In crown, sheet, and bottle glass houses, in many of which boys are called up for work at midnight, or soon after it, occasionally before, they must, or ought to go to bed very early on Sunday. A boy left Sunday school on this account. (No. 42. See also Nos. 179, 188, 198, 203, 23, 44.) In a few cases work is still liable on occasion to go on till midnight on Saturday. In regular flint glass works Sunday is not encroached on, but in some of the small places in London boys here and there are employed all Saturday night or all Sunday night, or both, and even occasionally on Sunday; and a boy in Ireland speaks of drawing arches on a Sunday, if "the merchants want the bottles of a Monday."

Want of instruction shown.

171. Under these circumstances it is not at all surprising that glass house boys, who form the bulk of the boys employed in the trade, should be found to be, as they are as a body, almost entirely uneducated. Some of the cases of ignorance remarked upon in my report on the "Metal Manufactures of the Birmingham District" were found amongst glass house boys examined in that district. On extending my inquiry to the rest of the kingdom, the necessary details of other kinds were too many to allow of my testing boys' knowledge or ignorance much in detail, but the evidence shows that other instances of the same kind of ignorance might be added, and that the want of instruction is very great. Of the comparatively limited number of boys of whom I made inquiries on these points, it appears that many have not been at school at all, or only for a few weeks or months, or either never in a place of worship, or only once or a few times. It is a common opinion, and not only amongst Scotch men, that education is more valued in Scotland, than in either England or Ireland, but in glass as in other manufactories in Glasgow many of the boys are Irish.

Felt by employers.

172. The want of education and the difficulties in providing for it are regretted by employers. The remarks of a small master (No. 157) will be found of much interest on this point. A Dublin bottle manufacturer considers that "The great mischief of the employment is the want of education." (No. 211.) Apparently some preliminary education would be approved of. (Nos. 44, 49, 57, 68, 89, 103, 110, 117, 148, 165, 168, 202, 209.) A Scotch bottle manufacturer thinks that the "great fault of "the work for boys is that they get too much money for little boys," which enables them almost "to "put their parents at defiance;" and this independence he thinks was a great cause of their neglecting his school. (No. 209.)

Reasons why not felt by workers.

173. Another cause of the neglect of education probably is that glass making is very often an hereditary employment, men getting in and training up their own children to the work, and thus each

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generation only follows on the steps of the former one brought up under the same unfavourable circumstances. The work is of a kind in which a good eye and skilful hand, with sufficient animal strength, are all important, and will command success and high wages without reference to any mere mental training, which has no direct bearing on these vital points.

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Its importance to the whole trade.

174. In all branches of the trade, and in cutting as much as in making, or even more so, a scientific training of the eye and touch, *e.g.*, by means of drawing, and for artistic work a study of models and designs with a view of cultivating the taste, would be of the greatest service, and no doubt materially facilitate the process of learning and shorten the time. A leading flint glass manufacturer speaks strongly on this point. "This" (attending schools of design) "is everything to them. Two of the "best workers that I know have had the advantage of being taught drawing in this way, and I "attribute their success entirely to it." (No. 110.) It is wonderful what an amount of taste and skill and quickness of perception some of the men show even now.

Valued by some workers.

175. There are, however, both men and boys who show that they value instruction,—men who have found its importance from their own want of it, and do what they can to give a better chance to their own children or boys under them, and boys who by night schools or other ways strive to improve themselves. In this way at one manufactory a glass house boy raised himself to be clerk in the office, where I saw him, and another to be a "very good warehouseman."

Social separation.

General character.

176. From the nature and hours of their employment, glass makers are more or less cut off, less in some cases than in others, from mixing much with other classes, and form a set by themselves. Flint glass makers are a set as distinct even from flint glass cutters, though in most cases working in the same manufactory, as if they were engaged in totally distinct manufactures. Sheet glass blowers are spoken of by a manufacturer as a superior class, and several whom I have seen appear so, but some, at least, are rough enough, as shown by their usage of boys. Of other glass makers many are most respectable and intelligent men, and not only in individual cases, but in whole factories; but as a body they are spoken of as an untaught and intractable class. Flint glass manufacturers in particular complain of the degree to which they are hampered by the control of the men, exercised through their trade union. Their peculiar habits of life, and want of education may probably contribute much to causing or keeping up these difficulties in dealing with them. (Nos. 89, 157.)

Intemperance.

177. Intemperance is complained of as a fault common to glass makers as a class, but the temptation is strong. The complaint, of course, is merely general. There are nodoubt numberless exceptions of individuals, and in works where careful attention has been given to the point by principals, the best results have followed, *e.g.*, so that a whole set in a manufactory can be spoken of as "almost, without "exception, a thoroughly temperate and well-conducted set of men." The rules enforced by the Messrs. Hartley (No. 44.) are worth notice, as is also the consideration shown in protecting boys from bad example by a foreman in a flint glass cutting shop. (No. 79.)

Bad example to boys.

178. Where some or other of the men are so often drinking, and sending out boys for drink, the boys are naturally led into the same habits, from getting sips or drinking with the men. "These "apprentices will drink half-a-gallon in a day, sometimes, and that public house beer, too. It "must be very injurious." (No. 230.) Beer, however, is better for glass makers than "hard whiskey, "which burns their inside out," in Scotland. On certain occasions, in the course of work, masters have to pay drink money, to which one of them attributes very bad effects on the boys. It "causes so bad an example socially and morally that they grow up with the same tastes, and follow in the same footsteps as the men." In Scotch bottle works a boy says that on putting-up a furnace, putters-up and gatherers, the former of whom are usually, and the latter in some cases, boys, have glasses of whiskey, but the takers-in only ginger (beer). In England, a boy 10 years old makes the distinction that the men drink "drink," *i.e.*, ale, but the boys beer. Water, however, seems to be what is drunk in the largest quantities by young boys, which is likely to cause chills. (See also Nos. 86, 149, 90.)

General summary.

179. On the whole it is abundantly clear that the mental and moral improvement attributed by several persons to glass makers, of late years, is far from universal or complete, and that there is still great need of education and other softening influences, and also it is unhappily clear that the system and kind of employment are such as to make it unusually difficult to secure them.

180. Other kinds of glass work, and the class and number of persons employed in them, afford little room for special remark here.

XVI.—General Remarks.

Need and difficulty of legislation.

181. The account above given shows that the conditions under which a large number of children and young persons are employed in the glass manufacture of this kingdom are such as to suggest very forcibly the need of some legislative measures for the protection of this class of workers. On the other hand, it seems undoubted that as regards the glass making branch of the manufacture any limitations of the hours of labour of boys, and other like restrictions, which have been enforced in other employments, would be likely to cause considerably more inconvenience to employers than in manufactures of most other kinds. In these respects glass works have some points in common with iron works, but differ from them in being far less simple and uniform in system, and subject to much greater want of certainty in the processes carried on in the furnaces.

Length of some details.

182. The peculiar nature and difficulties of this branch of the manufacture have made me think it desirable to give a very full representation of them in a number of statements made by employers or their representatives. These details might indeed have been summed up generally, and put shortly in the statements of two or three persons, but in that case, consisting as they do of such a number of minute points, they might have failed to attract sufficient attention, and a mere statement that manufacturers generally expressed like views might have failed to make up for this. And, though I do not venture to hope that employers will regard the difficulties of their case as put forward, or capable of being put forward, by the present means so as to be fully and fairly appreciated by any persons not practically engaged in the business, I think it certain that they would feel that justice had not been done to the views which they

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have kindly taken the trouble to express to me, if these were not represented in the most complete manner in my power. At the risk, therefore, of length, which I fear may be thought excessive, I have given these views in full, as expressed to me.

Some sacrifice of others.

183. The time and attention given to these points involved a sacrifice of detailed inquiries and evidence from boys so full as might otherwise have been desirable, but the evidence which is furnished by them and from other sources is sufficient to show the general bearing of the employment upon them.

Not serious.

184. I also feel justified in expressing my belief that though I may naturally have failed to furnish a complete and satisfactory account of so complex a subject, still the facts and views stated do on the whole furnish sufficient grounds on which a fair practical judgment as to the employment, and the interests and just requirements of employers and employed, may be formed.

Limiting age of entering work. Needful. Free from objection.

185. It seems clear from all the evidence, including that of the manufacturers themselves, that one great improvement at least might be made without any serious inconvenience, viz., the limitation of an age under which boys might not enter on glass house work. I have seen one of the boys, whose duty it is occasionally to hold a piece of glass in a furnace to keep it warm and in shape for a man while he is away, nearly spoil a whole cylinder of sheet glass by his want of power, as was explained to me by the manager, to keep it turning properly, though the man returned just in time to recover the shape. In my judgment a considerable portion of this employment is, all things considered, severe, and unsuited for children under the age of 13, even if working only by day, and for not more hours than they are allowed to work in regulated factories. (See a medical opinion, No. 234.) The opinion of many manufacturers, and the practice of several, show that the trade might be successfully carried on under such a limitation. (See *e. g.*, Nos. 89, 148, 157, 177, 185, 117, 128, 110, 96, 165, 203, 209, 210, 211, 114.) A leading London flint glass firm has made it a rule for many years, and the Tabular Returns of four other flint glass and of two bottle glass firms show that no child under 13 is employed by them. Several other manufactories of fair size employ only from one to six or seven under that age, and in several cases some of these are not in the glass house department. The highest number of children employed by any one flint glass manufacturer from whom I have a return is nine, six of whom are in the glass house. But one or two large pressed glass manufactories have made no returns.* Some manufacturers, however, are of opinion that it is desirable to take boys, or at any rate to be able to take them, a year or two younger. On fairly weighing the evidence it will scarcely be doubted by any thinking person that if children are employed in glass houses at all, it should be for more suitable hours and with greater security for their well-being in other ways, than are usual at present.

Ascertaining physical fitness for work.

186. The evidence also points to the importance of another matter, as to which it does not appear that there would be any real difficulty, while it would be a great benefit and security to boys, viz., some mode of ascertaining the physical fitness of boys before entering on glass house work, and in particular before entering on any blowing stages of work.

Difficulty of limiting hours in glass houses.

187. But all manufacturers agree in expressing their opinion that the work does not admit of being limited to definite hours, and that a greater or less amount of night work is unavoidable, and also that the full number of boys, of whatever age those employed may be, must always be working with the adults. It seems certain that a prohibition of night work by all under the age of 18 would, in most kinds of glass house work, cause considerable interference not only with the established, but probably with the most profitable mode of carrying on the trade. I endeavoured to learn from manufacturers what in their opinion was the highest age at which such a prohibition could be fixed without real injury

Up to what age practicable.

to their trade, but I failed in most cases to get any definite views on this point, the persons questioned not having directed their attention to the subject put before them sufficiently to enable them to speak definitely on such a detail. However, one of the largest employers considers that the age "would " depend chiefly upon the neighbourhood. In some places there would be no harm in fixing it as " high as 15 or 16, and for our trade (crown and sheet glass) generally 14 might be fixed.* * * After all, " however, the question of excluding boys under any given age is a matter which affects the interest " of the parents and the boys rather than of the manufacturer." (No. 44.) So for flint glass houses, " not under 14 probably, but I cannot say whether 16 would be young enough " for beginning. (No. 56.) " I do not see any necessity for boys under the age of 14 in a glass house, but between that age " and 18 they are important." (No. 68.) "I consider that under that age (14) boys are not firm and " strong enough or their constitution either for such work. It is cruel to have young boys at it." (No. 159.) They must begin "shortly after that age (13), at latest within a year or two." (No. 89.)

188. In this, however, as in other respects, on weighing the opinions of different manufacturers, it will be important to bear in mind that, in flint glass works in particular, there is a great difference between the requirements of the work in producing the best kind of glass made in manufactories of some size, and of the inferior kind of work done in small places.

Actual ages of entering on skilled work.

189. But the opinions of this kind not being numerous or definite enough to form a safe guide, I endeavoured, as a help towards a more accurate judgment on this point, to ascertain the ages at which as a fact boys or youths are commonly taken on into the various stages of glass making, such as foot making, &c., coming above common work of boys as mere helpers, and at which it was considered most desirable so to take them on. A number of statements on these points will be found scattered throughout the evidence. The general result is that the practice itself varies to any extent in individual cases, but that, other things apart, it is seldom thought desirable to take a boy on to such stages older than 16 or younger than 14. A competent judge fixes 16 as the best age for beginning foot making. (No. 110.) Variations also arise from the branch of work and the capacity of the boy.

Preliminary training needed.

190. Before a boy is put on he must get some familiarity with glass house work, as the work of the younger boys enables them to do. The time, however, usually spent by them in mere boys' work is far more than is needed for their mere training. The chief thing which they have to learn is care, and the importance of that is soon impressed upon them. The periods actually necessary for this preliminary training are spoken of by some witnesses as extremely short, and, for all that appears, they may be well so.

* A return from one of these, not the largest, subsequently showed a rather larger number.

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191. It is highly probable that not only is a boy no better suited for becoming a good glass maker by spending several years in a glass house before he begins, but that on the contrary he is less suited, having been more or less used up and weakened physically, and having done his work only mechanically, and without occasion to apply his mind and observation, as he would if his chance of beginning glass making were nearer. "A boy of 13 or 14 learns quicker than a younger boy." (Nos. 177, 159.) It is plain from the evidence that a boy's progress depends mainly not on the time which he has spent in the work, but on his natural aptitude, attention, and docility, with the amount of care and interest which men bestow on training him; and hence, that in the event of any restrictions on the labour of young boys much time might be gained by the selection of suitable and educated boys, and bestowing more care on their instruction in work. (Nos. 84, 96, 157, 177, 185, &c.)

May be too long.

Difficulties in flint glass houses.

192. The difficulties which would arise in the flint glass manufacture from any restrictions on the labour of boys in glass houses are fully represented in the statement furnished to me by Mr. Percivall, the manager of the Messrs. Osler's works, with whom I had full discussions on the subject. (No. 57.) The question of keeping up the supply of skilled labour by training boys early is probably of more importance in this branch of the glass manufacture than in others, the workmanship being more delicate and varied in this than in the others. In crown and sheet glass the work is of a much heavier and more uniform kind, and in bottle glass also the work is much more uniform, and far less artistic. The regular 12 hours of almost exact day work, viz., from 6 a.m. or 7 a.m., till 6 p.m. or 7 p.m., which the established system in flint glass houses always gives, secures a large amount of time for training up young hands with day labour only. But the objection that a boy could not work in the alternate chair or set, and so, in effect, would have his day unavoidably halved, requires to be weighed. Its importance, however, seems to me somewhat over-estimated. Though the work of different chairs often varies, there is sufficient resemblance to make it seem easily possible so to arrange as out of several chairs to choose two in which a boy could work for the whole day, if that were the only means by which he could do a whole day's work. As it is the same chair may have to change its kind of work. The evidence also gives good reason for believing the practice of limiting the work of a set of hands to six hours at a time to depend on custom, rather than on any necessity or very clear advantage. The small proportion of boys required, or, indeed, allowed, to be in training at any one time to supply the vacancies that arise in skilled glass makers, and the excess of younger boys over what can possibly be taken on as glass makers, are also facts of importance to be taken into account.

Meal-times important.

193. The question of meal-times is one of great importance to the boys. In glass houses there is no, or scarcely any, long continuous process, as in some other manufactures, liable to be interfered with by a cessation of work for an interval of a stated length. But in crown, sheet, and bottle glass works the variation in the hours of beginning work would make it impossible to fix such intervals at stated hours with advantage. Any loss of heat and time that might arise would be common to all glass houses.

Approach to a day of twelve hours in some bottle glass houses.

194. In bottle glass houses working six journeys a week, as many do, a general approximation to six uniform working periods of less than 12 hours each is necessarily made. How far it might be possible for others to approach this uniformity by adopting a six-journey system, in case any restrictions on night labour of boys made such a course expedient for employers, and drew their attention to it, might depend in a measure upon special circumstances, of which the quality of the fuel and materials which can be most readily obtained in a given place would appear to be the chief. The proprietor of some bottle works, making only five journeys a week, states in his Tabular Return that boys work at night "sometimes, but not as a rule; only in cases of necessity. It varies; for example, last week they did "not work during the night at all." At other works "the outwork journey is more often under 12 hours "than not" (No. 177); and at others, "If it were necessary it would be possible to arrange so as to "make the journeys fall in the daytime." (No. 206.) But others deny this.

An opinion as to regulation being practicable in them.

195. As regards this branch of the glass manufacture, the double experience of one witness, *i.e.*, both as formerly practically engaged in it, and as a medical man, constantly seeing its effects around him, gives authority to his opinion.

"I am told that the regulations in the factories are good, and work well. If so, I think that the glass "works ought to be placed under the same restrictions, and, from my knowledge of the works, I think that "the employers would not suffer in a pecuniary point of view, and the boys would not be *discounted*, as they "now are, for many worthless parents." (No. 232.)

Instance of actual limitation of hours.

196. At one of the largest bottle glass manufactories it has been found expedient to limit the working period to 11½ hours, without any regard to the quantity of metal which may remain in the pots unworked, and at one time even a shorter limit was fixed. The rule was made in consequence of the waste occasioned by the unpunctuality and dilatoriness on the part of the bottle makers. The fault of only a few was enough to throw the whole house behind. "Now, if they do not come punctually, "and work regularly, they have not the opportunity of making their full amount of work, so they do "not waste the time. We did not find any difficulty in introducing this rule, and it is decidedly "beneficial." (No. 192.) When more metal is melted than it is needful or desirable to work out, it is a common practice to lade it out or leave a larger quantity than usual in the pots, and to use it on the next occasion.

Different position of crown and sheet glass houses.

197. In crown and sheet glass houses, enough time has been gained by shortening the founding process, by means of improvements consequent upon the removal of the glass duty, to increase the number of journeys to four in a week, instead of three as formerly. It is stated that such a further saving of time as would allow of making six journeys a week is an object constantly aimed at, but of which no prospect is at present entertained. Till the present length of this process is in some way shortened, parts of the working periods, or of some of them, will unavoidably be thrown into the night.

Accidental delays.

198. In glass houses of all kinds accidental delays, from some cause or other, are apt to arise, and probably could never be entirely prevented, but all the evidence tends to show that proper appliances, materials, and attention can and do reduce them, as a rule, within moderate limits. In flint glass works such delays are not allowed to disarrange the hours, but only postpone the beginning of work for a

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turn or two. I am informed by a plate glass manufacturer that in the works of his firm the metal is always ready for casting by the regular hour, and that he is not aware of any cause which need prevent this, though he has understood that such regularity is not found possible in all works of the kind. It is said, on the other hand, that though this may be possible where materials more of the nature of pure chemicals are used, as in making the better kinds of glass, it is impossible where they are coarse and impure, as those used for bottle glass.

Whether the place of boys could be supplied, and how.

199. With reference to the objection, strongly expressed, that in the event of any restrictions on the work of all boys under the age of 18, their place could not be advantageously supplied by men to make up the defect, I must express my belief that the objection is well founded as regards the work of the youngest boys in flint and bottle glass houses, viz., the takers-in. From what I have seen of their work, and from the facts stated as to the rapidity and frequency with which the boys must move about, it is, I think, plain that full grown men, whose limbs were thoroughly set, could not do the work with advantage, much less elder men who from a decay of their natural powers had sunk from regular man's work of any kind either in or out of a glass house. As regards these elder men, I fully agree with the remarks of Mr. Percivall. (No. 57.) He states, amongst other things, that "they would be "*much* more liable to lose work by illness, as I have abundantly proved by practical experience; and "they would be even less able to meet the requirements of our work. * * * In short, it "must be self-evident that their vitality is approaching exhaustion." It would, in fact, no doubt, soon wear them to pieces. "A man could not do a taker-in's work. It would kill him, stooping and being "up and down so and about." (No. 84.) The work, however, could apparently be done, no doubt at some increase of cost, by elder youths not of sufficient ability to have become advanced in any superior employment. Most of the other miscellaneous boys' work could be done by men, to such an extent as occasion would be likely to require. The services rendered by boys as general "fags" may be disregarded, as, though highly convenient to the men, yet non-essential to the success of the manufacture. The substitution of elder men or youths for younger boys in any kind of work, or for any time, would, of course, cause an increase of cost, and probably without proportionate profit to the employer.

No peculiar difficulty out of glass houses.

200. In grinding, smoothing, polishing, and cutting plate and window glass, and flint glass cutting, and all work out of the glass houses, there appears no sound objection to regular hours, including fixed meal-times, and it is shown that in some of these branches there is great need of them. The troublesomeness of boys is often complained of, and in one plate glass manufactory a small number of men have been substituted for four times that number of boys. (No. 16.) Another firm have tried the same change, but given it up on account of the cost.

Sunday work.

201. In considering the probable effect of any legislative interference with the manufacture, it is fair to consider, as regards any injury which might be feared from foreign competition, amongst other disadvantages to which English manufacturers are said to be subject, that of their not working through Sunday as foreigners do. On the other hand, as compared with other manufactures and industrial occupations of this kingdom, it is fair to consider that in our glass manufacture Sunday is in fact turned to account for an essential part of the manufacturing process, though one carried on unavoidably and by the labour of very few persons, and that part of the Sunday's rest is in several cases drawn upon by the glass makers' work in some branches beginning and occasionally ending so close to the 24 hours of Sunday.

Character of glassmakers.

202. Lastly, it is hard not to conclude that the rough behaviour and want of feeling towards boys shown to exist too commonly in glass houses, though they have so greatly disappeared elsewhere and are so repugnant to the general tone of feeling, as well as, it is believed, to the practice which prevails amongst the working class at large in this country, are not in some way owing to the character of the employment which furnishes such examples. Some clue may perhaps be furnished by considering to what an extent this employment, by its exhausting nature and unseasonable hours, increases the difficulty as well as the importance of moral control in the workers, and at the same time cuts them off in a greater degree than usual from many educational, social, and other humanizing influences enjoyed by persons in most common employments.

Conclusion.

203. It is not unjust to say that the character of too many glass house workers certainly in past, and too often in present times has led to the class being often spoken of to me as rough and ignorant. The work itself is not of a gentle or softening nature, and a certain amount of roughness which may often be observed in tone and manner towards boys is no doubt more apparent than real. But, after all, the circumstances of the employment are less favourable to young boys as regards their moral improvement than many other kinds of work. There is no doubt much truth in the remark volunteered by an intelligent young glass house boy on this point. "No one knows nothing before he comes into a "glass house. You know a vast before you go out. You soon learn things here. Boys think it "would be so pleasant to come and get money, but it would vast better for them to stay at school." (No. 222.)

I have the honour to be,

Gentlemen,

Your obedient servant,

Lincoln's Inn, 29th April 1865. J. EDWARD WHITE.

EVIDENCE upon the GLASS MANUFACTURE, collected by Mr. J. E. WHITE.

PLATE GLASS.

Messrs. R. W. Swinburne and Co.'s, Plate Glass Manufacturers, Newcastle-on-Tyne, and South Shields.

1. The two branches of the manufacture, viz., the making or casting the plates and the polishing them, are at present carried on in distinct works. Some small cog-wheels in a polishing shed which are low down and uncovered, look dangerous. Indeed they have been proved so (No. 6).

2. *Mr. R. W. Swinburne.*—We have two manufactories, one in South Shields, where the glass is founded and cast, the other in Newcastle-on-Tyne, where it is ground, smoothed, and polished. The casting begins at the same hour every day, viz., 4 a.m., and finishes at about noon the same day. The previous process, viz., founding or melting the metal, takes about 12 hours. The time occupied in founding crown and sheet glass, which we used to make, but do not now, was very uncertain, varying sometimes as much as from 16 to 20 hours, but with plate glass we have been able to secure regularity. Only men are engaged in preparing the materials, founding, or casting, but we have some boys in our South Shields works, apprentices from 15 years upwards, who cut and pack the glass. Their work is regular from 6 a.m. till 6 p.m. (At the South Shields works I was informed that two or three boys come on with the casters, and work from 3 a.m. till noon. Also that the whole process of founding and casting was completed exactly in 24 hours to within a few minutes.—J.E.W.)

In our Newcastle manufactory the stated day is from 6 a.m. till 6 p.m. I have a strong opinion that those are the right hours of labour on moral grounds. Indeed on every account we dislike working longer; and I hope that when we have more perfect machinery, as we shall have shortly, we shall be able to do without it. But hitherto we have been not unfrequently forced to work till 8 p.m. or so. Breaking down of the machinery, which very often happens, especially if machinery is old, is a common cause of this.

When very busy, we have tried working day and night by means of relays, but it does not answer. The machinery will not stand it properly. Besides, when the work is finished by one set of hands, one man is responsible for its being done properly; but if one set leaves and another comes on, the responsibility cannot be so well fixed.

Most of the boys are employed in attending the grinding and the polishing machinery, throwing on sand and water for the former, and wet rouge for the latter. They have no stoppage for meals, but get them as they can. If the machinery stopped for meals there would be a loss of time when work began again, owing to the temperature having been somewhat lowered. A warm temperature is required, and it is found that the work goes on more quickly and better at the end of the day, owing to the increased warmth. Also, if the machinery stopped, the sand or the rouge, as the case may be, would stiffen, and at starting again would scratch the glass. This would not matter in the grinding, but in the polishing, which is the last process, it would be an injury.

We do not like to take boys under about 11 or 12 years old, but some come younger, and it is, I think, better for them to be working than to be merely about the streets. Parents will send their children out as soon as they can get anything. Boys are very troublesome, and we tried to have men instead, but found it too expensive.

The smoothing, which comes between the grinding and polishing, is done by women and big girls, say from 15 or 16 years of age upwards. Some smooth with the hand, others attend smoothing machinery. These, however, all stop for meal times. Their time of work is nominally from 6 a.m. till 6 p.m., but it is rather at their own choice, as they are paid at the rate of so much a foot. They are glad to stay till 8 p.m. when they are wanted. Their work is dirty, and they keep working dresses for it, but there is no occasion for it to be wet. I am very particular about that. They keep sweeping off the wet with a scraper. The floor is dry.

We have have lately closed on Saturday at 1 p.m. instead of at 4, and think that we do not lose much work by it. I am a great advocate for paying early, and letting the hands go, particularly women. They can thus market with advantage, and have time to clean up their homes and be ready for Sunday.

We have very few accidents, not one in twelve months; never anything fatal, seldom anything more serious than flesh cuts from the glass breaking.

One part of our work is of a kind which requires care and cleanliness and good ventilation, owing to the mercury used for it, viz., silvering glass for mirrors. This is done by men only, but a few females work with them, cleaning the glass before it is silvered. It is very difficult to get the men to take care of themselves, *e.g.*, they will eat without washing their hands. A physician who visited this department of our work upon a Government medical inquiry, expressed himself as pleased with the airiness of our room in which this work is done. Silvering glass is a trade carried on in several places in London.

It would materially affect us if we had restrictions like those of the factories. The foreign competition is so very strong, and the advantages of foreign manufacturers so great. In the plate glass trade working through Sunday, as the French do, is a great advantage. Our work stops for Sunday, except the founding, which employs only a very few men. I believe that in France the grinding, &c. stops at 2 p.m. on Sundays, and that some holiday is allowed on Saturday.

Other advantages of foreign glass manufacturers in respect of cheaper wages, &c. are referred to in my paper read at the meeting of the British Association, held here in 1863. They employ women for parts of the work done in England only by men. The French sheet glass makers also work far harder and longer than the English, and they find it in consequence so exhausting, that in France it is said that they do not work beyond the age of 40.

Still long hours are not desirable, and I should like to see a law passed that no person should work more than 14 hours in a day, with a clear 10 hours for rest, and I think that no manufacturer would object to that.

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3. *Robert Buckham*, age 12.—Mind polishing machinery. Work from 6 a.m. till 9 p.m. Have done so all the time that I have been here now, *i.e.* six months. Worked here once before, and then worked from 6 a.m. till 10 p.m. all the time. It was for several months in last winter. All the lads at polishing work the same time. We have no meal-times. Get a bit as I am doing now (4 p.m.), but have to watch the glass all the time, and when it gets dry, put on some more polish. Get 5*s.* 10*d.* a week. 4*s.* 6*d.* would be the regular wages without overtime, *i.e.*, working only till 6 p.m.. When we worked till 10 p.m. it was 6*s.* 3*d.* Get very tired; it is in the arms chiefly, from pulling the bench on and off. Have never seen a lad hurt on those cogs.

Can read, not very well. Go to church.

4. *Thomas Melburn*, age 10.—Same work. Begin at 6 in the morning and give over at 9 at night. Do not stop for dinner. Only been here a week, taking another boy's place.

5. *John Summers*, age 11.—Mind a grinding bench. Work from 6 a.m. till 8 p.m. Have done so all the time that I have been here, *i.e.* six months. Have no time for breakfast or dinner. Have to heave sand on the bench, get a bit (*i.e.* of food), then heave more sand on, and so on. Sometimes a boy comes and takes my place a bit while I eat.

6. *Thomas Lister.*—The grinders generally work till 8 p.m., the polishers till 9, sometimes till 10. The polishing is usually later than the grinding. Neither polishers nor grinders have meal times. From morning till night neither can get out of the works. They can just get a run in the yard if they like. There are about 50 boys from 10 year old upwards employed in grinding, and 20 in polishing. The polishers get 4*s.* 6*d.* a week and the grinders 5*s.* When boys get to 15 or 16 they leave this work and are taught cutting.

The rouge used in polishing cannot hurt the boys; it's all the long hours that do harm. The grinders get wet at the knees. They could not wear aprons, because of the machinery; they would get caught.

The cogs in the polishing machinery are left uncovered, because they want oiling several times a day. The under part is only oiled twice a day. Boys are not allowed to do the oiling; a man does it. One boy lost his arm in those cogs, another his leg, but they were playing.

About 50 women and girls, seldom any under 16 years of age, are employed in smoothing. It is all piecework, some done by machinery, some with the hand. Sometimes about Friday, in order to get out their week's work, some work during the dinner hour.

I do not know if any of the boys go to school, but many can read. I know this because I give tracts, such as the British Workman, &c., which a lady brings to many, and when I go round the works, as I generally do two or three times a day, I see boys reading them.

[This witness was the person appointed to conduct me round the works.]

7. *Julia M'Anally*, age 18.—Work at smoothing here; have done so a year and a half. Our hours are from 6 a.m. till 6 p.m. with half an hour for breakfast and an hour for dinner. Sometimes work till 8 p.m. It's very seldom that I work the dinner hour.

London.

The Thames Plate Glass Company's Works, Blackwall.

8. *Mr. Thomas George Thorne*, manager.—There are two chief departments of work here, viz., the making the glass, and the polishing it,—including in the latter term the grinding and smoothing. There are also other miscellaneous kinds of work incidental to the business. All employed in the glass-house or glass-making department are men, with the exception of about three boys, who help them in odd ways. The glass-house day is from 6 a.m. till 6 p.m. or more often till 5 p.m. There are of course men during the night attending to the furnaces. This period is pretty regular, though things may at times happen to somewhat delay the founding.

Just about a third of the boys are employed in the grinding, and another third in the polishing, and the remainder in miscellaneous ways, *e.g.*, as a sort of apprentices to millwrights, blacksmiths, carpenters, &c., of whom we are obliged to employ a number in the works. These work the hours usual in the same trades elsewhere. The grinding boys merely throw sand, and the polishing boys crocus, on the glass, the grinding and polishing machinery being in other ways self-acting. There are also a number of females all working as smoothers, but most of them are women or nearly so. Any younger are working with their mothers or sisters. Smoothing is an intermediate process between the grinding and polishing, and is done by rubbing one plate of glass on another with emery between, and either by machinery or with the hand only.

All who work with the machinery, whether as grinders, smoothers, or polishers, are paid by the piece, and not directly by the company. A certain amount is paid to the foreman of each workroom, according to the amount of work done by it, and this money is divided out by him amongst the workers in the proportions arranged amongst themselves as proper. The hand smoothers are paid by the company. Where a girl merely works as helper under another, the latter receives the pay as one worker.

The regular day for these hands, viz., grinders, smoothers, and polishers, is from 6 a.m. till 6 p.m. and till 2 p.m. on Saturday; with two hours off for meals. The working hours, however, vary with the state of trade, from 48 to 78 hours per week. For nearly a year past, they have been from 6 a.m. to 8 p.m., and I hope that they may not again fall so much as they have done below the proper amount.

The females go away to their meals at the stated times, viz., 8, 12, and 4 o'clock if they like, but many of them live at a distance, and I should say that not a third do go out. There is a cooking room provided where they and the other workers can have their coffee, food, &c., got ready. Some eat there, some in their work sheds. The boys perhaps do not get their meals at the fixed times, but arrange amongst themselves as to when they can take them, say by getting others to mind their work while they do so. But they may take the full meal times, and I think do.

The machinery runs the whole time. It would be a serious loss if it did not do so, but had to stop for meal times. The loss would be the loss of all that amount of time, and as so much less work could be turned out in a given time, the cost would be proportionately increased. There would not, I think, be any injury to the glass itself, unless the machinery stopped long enough at a time to let the materials get hard and scratch the glass. An hour, I should say, would not be long enough to do that.

It would seriously affect the interests of the company if the manufacturing processes themselves were limited to the factory day, but if such a limit were applied not to the machinery or men, but only to the other workers, it would scarcely affect the manufacture. It would only affect the workers themselves, whose hours were so limited, as they would earn so much the less. As to children, we do not wish for them. The few that are here are brought in by parents or friends. Night work I do not like at all; it does not do, and we never practise it, or at any rate have not for a long time past. I except of course the furnace men, who must work by night.

All the work is healthy. The women and girls are a fine healthy set, and get good wages. Their work is good for developing their muscles, as they are constantly moving their arms. They may keep

as dry and clean as possible at work if they like. Some do and some don't; it is just according to the individual. The rouge used by the polishers is harmless, and I never heard of any complaints being made of it. The only noxious substance used is arsenic, a small quantity of which forms one of the materials of the glass. The man who weighs out that has done it for many years. There is a sick club for the work-people, to which the company subscribes.

The company also subscribes to two hospitals, as accidents, chiefly cuts from breaking of the plates, are frequent. But there has not been a boy hurt by the machinery for a long time. There are very stringent regulations, and if a boy were found breaking them he would be discharged instantly. This was found necessary. Some years ago a boy was killed owing to his carelessness. He was scrambling across the machinery. (It was at rest at the time, but put in motion by another boy.—J.E.W.) Not long ago I turned away a boy because he was running a risk, and I had had to reprimand him for like carelessness before. The shafting is out of reach, and the cog-wheels are covered over.

There is no school in connexion with the works, but having boys taught is a point on which I think strongly, and as I have now just come to live close by the works, I hope that I may be able to see something about their attending some school, if there is any convenient; but it is a very out of the way neighbourhood. I think, however, that the boys have generally been to school before they came here, as if I ask for one who can read figures, &c., I have generally no difficulty in finding one.

9. *Robert Streeton*, age 11.—Have been a polisher here nearly six months. All this time we have worked from 6 a.m. till 8 p.m. It has been 9, and once so for two nights running. Don't get out from morning till night, except sometimes when my bench is off, or when we go errands for the men. Could just run outside if we wanted, only we are frightened the glass should break. Don't get no dinner hour; get dinner while at work, or sometimes some one comes and takes my place while I get it. Get 6*s*. 6*d*. a week.

Have another jacket and trousers, but no other boots. Clean the red off them. Wash the polish out of my hair with soap and hot water and soda every Saturday night, and wash it off my face every night. It makes the water red. Was one month at school; can't read.

[A bright, nice mannered boy.]

10. *Isaac Luck*, age 13.—Was six months here as polisher above a year ago, and came again to the same work three weeks back. All the time that I was here we worked, as now, from 6 a.m. till 8 p.m. Get dinner when we can, and breakfast too the best way we can. We sit down here near the benches, take a mouthful, and then run away. We are only outside when, say, we run for the foreman's dinner or that, perhaps five minutes.

Can read (only a few monosyllables). Was at school three years. Worked at rigging making, passing the ball, before I was here.

11. *Theodore Lewis*, age 13.—Heave sand on the plates in a grinding shed. Here nearly a year. Have worked all the time from 6.30 a.m. to 7.30 p.m. Get 6*s*. 6*d*. a week, and put 6*d*. of it in the bank.

Can read and write; was at school till I came here.

12. *Mary Lee*, age 12 years 11 months.—Work in a smoothing shed, rubbing with my hand. Have been here nearly a year. All the time I have worked from 6 a.m. till 8 p.m., except on Mondays and Fridays only till 7, and leaving early on Saturdays. It is hard work. Feel tired about Thursday, and my shoulders ache every night after I get home and sometimes while working. My feet and legs as far as my knees ache too. (Smoothers work standing.—J.E.W.) Work for mother (No. 13), who is in another shed. Don't know what she gets. She gives me 6*d*. or 1*s* a week. Think I am the youngest girl here. Can read a little; not write.

13. *Mary Lee*, smoother.—My girl (No. 12) has worked here nearly a year. It tires her back and feet and legs. A gentleman wanted her to go to the night school. She could go Monday night, and the foreman would let her go early for it on Tuesday night too, but she cannot go the school on nights which are later in the week, because we must stay to finish our week's work and earn the money.

14. *Margaret Titchell*, age 17.—Have worked here as hand smoother with mother nearly two years. Generally come at 6.30 or 7 a.m. and work till 8 p.m. Have worked the same all the time I have been here. Very seldom work in meal times, but do sometimes. Sometimes the work is very trying. Mother gives me sometimes more sometimes less; never 5*s*., I could not look for that; perhaps it is 6*d*. or 1*s*. in a week.

The Birmingham Plate Glass Company's Works, Smethwick.

Birmingham.

15. The statements, Nos. 16 and 17, furnish the only account which I can give of these large works, the company considering that their mode of manufacture requires absolute secrecy. The account, however, is sufficient to show that the employments are of the same kind as those found in other plate glass manufactories, and so described.

16. *Mr. H. C. Lockhart*, manager.—Most of the boys, 46 in all, are employed in feeding the benches, on which the glass is ground by machinery, with sand and water, a work requiring constant attention, but not laborious. For this a boy must have the size and strength of an average boy of 12 years old; but they seldom stay more than two or three years, at the most four or five; and then, as the wages are the same for all without regard to age, viz., 5*s*. a week, and 6*d*. additional if they stay over the first year, they leave and go into ironworks or other employments where they can earn more. There is no work intermediate between that of boys and men, or in which they require training. The men's work, including the casting, is not begun under the age of 18 or 20.

Formerly a large number of boys were employed in minding the machines in which the glass is polished with rouge, but this is now done by men, one man being able to attend to four benches, each of which had a separate boy. We should prefer men for the grinding also, but each bench requires such constant feeding that there must be a man to each, and consequently the rate of wages would be increased without any saving in the number of persons employed.

From 130 to 140 females are employed in the smoothing, but as for this they must be tall and strong. Few, if any, come much under 18 years of age, and they run from that up to about 30.

About half a dozen boys work as apprentices in the cutting rooms, where the plates are cut with diamonds.

The casting is arranged so as to take about seven hours at a time, usually beginning at 6 a.m. This needs strength, and there is not more than one, if one, under 18 engaged in it. Overtime seldom happens. When it does, it is when there is a press of work, or to make up the time lost by the men taking a couple of days or so holiday at Easter, Whitsuntide, the wakes, and Christmas. But for the last three or four years the time has been short. We do not have a break down often, on the average not once a twelvemonth. There has not been one lasting a week for five years; one may last a week or two. The time for meals is not fixed, but depends upon the machinery, which stops at about breakfast and dinner

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time, and for about half an hour at one or two other times in the day, for relaying the benches with glass and oiling the machinery. The oiling is done by the men. A boy interfering in it would be discharged immediately. The meals are all brought and taken in the works.

There are five other plate glass manufactories in the kingdom, three at St. Helen's, one at London, and one at Newcastle, on the average of about the same size as this, one or two probably being larger and one or two smaller. In four of them in which I have been, the work was of the same kind, and carried on in the same way as here.

Though there is seldom occasion to exceed the regular hours of work, it would be inconvenient to be restricted in any way. The trade has suffered greatly of late by the introduction of foreign glass free of duty, while English glass cannot enter the continent freely in return, on account of the duties there.

The company subscribe to the evening schools, &c., round here, and support cricket clubs, one for the boys and one for the men. There are also music bands and a sick club, which is not much drawn upon; at least there is always a sum to be divided out at the end of the year. The boys have no occasion for a knowledge of writing or figures in the course of their employment. They are probably of the average class and mental condition of other boys in the neighbourhood.

17. *James Gibbs*, aged 14.—Have been five years in the plate-glass works at Smethwick, part of the time in a polishing shed and the remainder in a grinding shed. The hours were from 6 to 6, but nearly always in winter, as long as the cold weather lasted, we worked over till 9 p.m. Have worked nights there, days one week and nights the next, for six months, but none of us have done it for longer than that. The last three weeks (in summer) they have been working nights in one shop. I had just been shifted into that so that I might go on nights, but I broke my leg the day before. There are three grinding sheds, having in all 48 boys, and two polishing sheds, having 19, and four block-washers. The youngest that will be working nights now is 9 years old. My brother, now 16, has been in the works eight years, and a lad of 18 has been much longer.

We had no regular times for dinner, but had to get it as we could while the machinery stopped to oil the shafting and get the wheels ready, it might be a quarter of an hour, sometimes only five minutes, sometimes as much as half an hour, but they had to mind what they were doing to get as much as that. They oiled every six hours. There was no proper time for breakfast either, but we only had just what we could get while the benches were off.

The polishing was the easiest work, but the colour was bad. You were always red from the rouge. My brother has been red all the time (8 years). You got it into your mouth if you ate without washing your hands. The boys did not get hurt in the machinery, except one who got his foot "squeeged," but he was getting where he need not be. I only got my fingers cut, but never to hurt much.

[I found this boy a patient in the General Hospital.]

Crown and Sheet Glass.

CROWN AND SHEET GLASS.

Messrs. Chance Bros'. Crown and Sheet Glass Works, Spon Lane, Birmingham.

18. These are very large and important works, covering many acres of ground, and employing many hundred workpeople, of whom only quite a small proportion, about 300, are children and young persons. There are many separate glass-houses, most for making sheet glass, the others for crown glass, stained glass, rough plate glass, and optical glass; the latter, being a work which requires the highest possible skill, is carried on by adults only, and but very few of them. In the rough plate glass house none but men and three big boys are engaged. Stained glass making involves nothing peculiar as regards the character of the employment. The employment of boys under 12 in any part of the works is contrary to the rules of the firm, but it appears that it sometimes occurs. (Nos. 24, 25, 28, 29).

19. Boys are employed in grinding and polishing the "patent plate" glass made here, and females in smoothing it, in just the same manner as is done in the plate glass works. The smoothers, whose work is wet and sloppy, are provided with moleskin aprons, and wear high wooden shoes. They are said by this means to be able to leave their work sufficiently dry and tidy. A number of boys, about 30, are also employed in grinding light house glass. The machinery is of a different kind from that used in the "plate" grinding, but the nature of the employment is the same.

20. Great regard has been shown by the employers for the education of those under or around them. Large and handsome schools, including three lofty school-rooms, with class-rooms to each, supplied with maps, &c., and a house for a master, have been built by the firm close to their works at their own cost, which must have been very considerable. The benefit of these schools, though mainly intended for, is not confined to, those engaged in the works, for whom classes are held on three nights in the week, including instruction in drawing, which is of great use in certain branches of glass work, though said to be not yet so much appreciated by those who would benefit most by it here, as by other persons near who avail themselves of it. It having lately been thought by the employers desirable to ascertain the actual educational state of their younger workpeople, all have been examined; and the result of this has led to a rule that all under the age of 18 who failed to show the required knowledge of reading, writing, and arithmetic, shall attend the evening school.

21. A qualified surgeon is appointed to attend the people employed in the works, and has for the purpose a surgery forming part of the school group of buildings.

22. *Mr. William Davies.*—Surgeon to the Messrs. Chance's glass-works. I have been engaged as surgeon to these works for 19 years. From my experience there are no serious diseases peculiarly incident to the glass-work as carried on here. On the contrary, with reasonable care, and especially with temperance, I consider that it is as healthy as any employment. The men suffer most from their own intemperance, the heat and laborious nature of the work inducing them to drink largely.

I remember scarcely any cases of those diseases, such as colds and inflammation of the lungs, which would naturally be expected to be found where persons are exposed to great changes of temperature after severe labour in great heat, as those who work in glass-houses are; or rather, scarcely any which could be directly traced to this employment. I have found such diseases here in persons who were previously disposed to them, and have had to advise many to leave an employment which would be likely to be injurious to them.

I believe, however, that the glass-house people, who perspire a great deal at their work, and leave very much exhausted, would probably suffer, were it not for the great amount of rest which they have in the week and their living well, as their high wages enable them to do.

The most frequent complaint is that made by the

polishers of having "got the rouge on their stomach." This is, I have no doubt, a correct account, as the rouge would pass through their nose and fall through the pharynx into the stomach, and when there, produce constipation, as any other such powder would. Those who work amongst the rouge do suffer from this, but it is not a serious ailment, and their own instinct leads them to ask for "opening medicines." This might, perhaps, be prevented by the use of masks; but it is not worth the trouble. Rouge consists of a common oxide of iron. I have not observed any bad effects arising from the use of emery; that is used wet, and would not be inhaled.

It is often asserted that dust inhaled acts upon the lungs; but I have never seen any evidence to satisfy me that such is the case. It cannot pass directly into the lungs, and I have not found any cases in which I could trace its action upon the passages to the lungs, so as to injure either them or the lungs through them.

Considering the large numbers of persons employed here, accidents are not numerous or serious. The most common are from cuts by the glass, either in the cutting or the polishing rooms, or from the bursting of the hot glass, or from getting into the cranks of the machinery; the majority of the cuts being in persons under 20 years of age, and the injuries from machinery being divided amongst men and boys in about equal proportions. Cuts requiring my dressing occur several times a week, almost daily; but they have never occasioned loss of life or limb, and the most serious have been divisions of the tendon, destroying the efficient use of the arm. Many years ago when, owing to a great and sudden increase of the works, large numbers of new and unskilled hands had to be taken in, accidents were very frequent; but in all parts of the work, out of doors as well as in, and not specially in the glass-work itself. Persons are much more exposed to risk from accidents when they are fatigued, and cannot command their attention equally. This is of great importance.

Sleep by day is not so beneficial for any one as sleep by night, even if it is equal in amount. Absence of light is essential, and the waste is not repaired in the same way. Regular rest is more important for the young than even for adults, and it should be taken without any break. No quite young person should have less than about eight hours of regular sleep.

23. *Joseph Withers.*—Superintendent of a crown glass-house, *i.e.*, of the hands who "work" the glass. This house is double, having two furnaces and two sets of hands. Each set consists of four gatherers, four blowers, two furnace men, two kilnmen, two punty men, and seven boys. The boys carry the pipes, each carrying two at a time. A pipe weighs 20 lb., and is difficult for any one, not used to it, to lift.

A full number of hours with a full set of hands is called a "journey." There are four journeys in a week, beginning at about 12 on Sunday night, 3 (6?) on Tuesday afternoon, 9 on Thursday morning and 5 on Saturday morning. The rest of the time is taken for preparing the glass, which is done by other hands (men). The boys work about 12 hours each time, having to come about two hours before the men to sweep up the house, clean the tools, and put everything ready for the men, so that the latter may begin directly they come in; but all, men and boys, leave work together. The work can never stop, as the glass would congeal. There is one stoppage such as that just now (It was scarcely noticeable, J. E. W.), when the fire is attended to, but it is not more than about five minutes. The boys can eat then, or "eat and walk." There is another double crown glass-house with the same proportion of hands, and the same system of hours and work in every respect.

When the boys first come to night work they cannot keep awake well, and fall asleep, but get used to it after a while. This is because they do not go to sleep in the day, but play about, as I did myself.

If it were necessary to have two sets of boys, arrangements could be made to do this without throwing the work out. Boys get 5*s.* a week at first, then 6*s.*, then 7*s.* To learn well they should come young, about 12 or 13. They work up through all the steps.

The work is healthy, but boys who used to cool the pipes by throwing water over them with their hands were always wet about the body from it, and complained of rheumatism. Also their hands were sore from being constantly in the water, which got burned by being used so often without change. Now, however, the hands are not used at all for this purpose, as water is turned on from a small pipe. This is a very simple plan, and might be used everywhere.

24. *William Hadley*, age 12.—Am a "pusher" in a crown house. I push a sliding iron door over the mouth of a furnace each time after the man has drawn the glass out. Stand close to the furnace to do this, but not in front. Have to draw into the corner out of the way of the glass and turn away my face as the man carries it past close to me. Have pushed for three years. Also carry away the pipe when the glass is taken off. Am always well, and can eat well.

25. *Henry Moss*, age 12.—Am "13 next April "fool day," (It is May) and have been here two years. "Push" like the other lad there, but am at other work now. (Only half the men are at work to-night.) When I first came I carried off pipes. The journey was 10 or 11 hours. Came this afternoon (Tuesday) at ½ past 3, but should have come at 3, only no one told me in time. The boys always have to come three hours before the men, to get ready for them. Will leave work at about 4 to-morrow morning.

At first used to go to sleep at night when sitting down at "pushing," about so far (8 or 10 feet) from the furnace mouth; not more than once in a journey. Was soon waked up, but was not beaten for it. Have seen a good many other boys go to sleep at their work. Get 6*s.* a week, 3*d.* of it for myself, when doing four journeys. Cannot read, but know my letters.

26. *John Smith.*—Superintendent of a sheet glass-house, *i.e.*, of the hands who work the glass. The founder and his crew of 6 men, with a boy to wait on them and open the door, prepare and melt the metal and have charge of it till fit to be worked. The founding may take much longer than usual, owing to wet or cold. The boy stays 8 or 9 hours, but the men's work being so heavy they work in relays, *i.e.*, in two sets of three each. The furnace is always burning except when let out for repairs, perhaps once in a couple of years.

When the metal is ready to be worked my work begins, which is to take the general charge of the metal in the furnace, keep it clean, and at the proper heat, and superintend my hands, about 50 in all, viz., 13 blowers, all men, 13 gatherers, all men, 13 pipe warmers, boys and youths of from about 14 to 20, and 10 "spare" boys, who wait on the men, carry their pipes to the pipe warming arch, carry water, clean the place, &c., and open the door.

The work of the "spare" boys is very simple, and such as a boy of 10, or 9, or 8 could do. All get as much as 5*s.* a week. No one works in a glass-house for less, except the founder's boy, who gets 3*s.* 6*d.* By about 14 they usually get to be pipe warmers, and gatherers by about 19 or 20, but some may get to the gathering by about 17. I did. A gatherer gets about 1*l.* a week. A pipe warmer puts a piece of hot glass on to the end of the cylinder formed by the blower and cuts it off, and occasionally takes the blower's place at the furnace for a short time to keep the metal in shape while the blower is away. Gatherers collect the metal from the furnace on a pipe for the blower. Boys coming young learn the work and get practice, moving up through its different parts. Men would not come for the wages which the boys' work pays, but the trade may be learned by beginning at any age up to 20. I would engage to teach it in 6 months, and could name a case of a young man who began at 20 lately. It sometimes happens that a dull scholar does his work better than one who is a better scholar, but that is the exception; and as mere workers I would much prefer

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intelligent and well taught boys to boys untrained and ignorant.

Our week's work consists of four journeys, on the average about 9 or 9½ hours each, occasionally 10, but not more. But the spare boys stay longer, on the average about 10½ hours, sometimes 11 or 12, and it has been as long as 12½ hours. If the wind is high it causes such a strong draught as to heat the furnace and metal too much for working, and the work is hindered. A wind may cause a delay of an hour and a half. This cannot be prevented by any appliances for keeping the wind off. Screens are put up for the purpose, but they cannot entirely exclude the influence of the wind. This is the only thing which lengthens the actual glass working. The cold and wet only delay our beginning by lengthening the founding process.

But there is one thing which occasionally throws on all, the founders' crew as well as mine, except the "spare" boys, who are not strong enough to help, a great amount of very heavy extra labour, viz., pot setting. This is necessary when a pot has broken, which happens in the founding when the heat is greatest. Sometimes there may be six or eight weeks without a pot breaking, sometimes it may happen several times in a week. Last week out of the eight pots in this furnace four broke. The whole pots are first worked out, and then all hands get out the broken pots, breaking down the side of the furnace for the purpose, and put the new pots in. This is the severest and most disagreeable work that we have, and may take two, three, or four hours, according to circumstances.

There is always a rest in the middle of our journey. Four of the eight pots are worked together, and when these are finished the remaining four pots are got ready by taking away the doors and removing the stoppers, which block up the openings to them, and skimming off the top of the metal, which is my work only. As soon as ever I can get it finished work begins again directly, but the stoppage is always as much as 30 minutes or from that to 40. In this interval a meal can be taken. A glass maker must live well. The men drink a good deal of ginger beer, &c., or whatever is brought to them, and the boys generally drink with the men and have whatever they have.

Accidents from burns and cuts happen in the course of the work from getting in the way or from the glass bursting. Last week a pipe warmer, a boy of 16, had an accident which looked frightful, though fortunately he was not seriously hurt. He was in his proper place by the glass blower, but stepped out just at the wrong moment, *i.e.*, as the glass blower was swinging the glass, which struck him in the face; but he escaped with cuts. Just now a boy, who has lately begun pipe warming, tumbled into the sunk place beneath the blower in which the glass is swung (several feet deep), but he was not hurt. Cuts are generally upon the hands, and burns upon the arms, that being about the height at which the glass is carried. They are not hurt very seriously, but are sometimes away for two or three journeys or so.

The system of work and the number and proportion of hands in the other sheet houses is just the same as in this.

27. *George Fenton*, age 18.—Am a pipe minder, but have not done it for very long, though I have been here four years. The boy who did it before was younger. Stand in front of the arch, *i.e.*, a furnace with a long row of holes, through which the ends of the pipes are heated, and move the pipes about so as to keep them at the proper heat. "Sometimes" it is very hot.

Can't tell for regular hours what my work is. It's all hours. Properly begin at 12 o'clock on Sunday night, 6 o'clock on Tuesday evening, 4 o'clock on Thursday afternoon, and 6 o'clock on Saturday morning, and each time work for 9 hours, making four journeys a week. Stop for half an hour in the middle of each journey.

[I was obliged to give up any further questions to this witness, finding that, though he apparently attended to his work just the same as before, he was becoming exposed to loud and increasing complaints from all quarters for his inattention in letting the pipes get too hot. The heat in which he stands is considerable.]

28. *Edgar Goodyer*, age 14.—"Spare" boy. Here three years. Carry pipes from one place to another as wanted. We work all hours. Can't tell you when we got to come. Have to come and find out, and when some one has found they tells you. Used to go to the school, and was in the third class, but don't go now. Can't read so very well; can write pretty tidy when I've got a copy. Have one by me. Do addition and odd sums, you know.

[The last two boys are in a sheet-house.]

29. *William Bayley*, age 15.—Now at the Crown iron works, Smethwick. Was in one of the crown glass-houses at Chance's, Spon Lane. There were four journeys a week, usually of 12 hours each; but we boys were always obliged to go about 3 hours before the men to call them, to clean up, get water, &c., so that we were usually 15 hours at a time there. I and two more lads had to call up about 15 men at their homes. On Sunday night we went at about 12; went to call the men at about 2 or so, and they began work at about 3. We had one meal in each journey, stopping for about half an hour when two of the four pots were finished. One of the boys was about so high (very short), and not more than 8 years old. He had been there a good while before I went there. He worked the same hours as the rest.

My work, carrying pipes, was not very hot. I was never poorly, and could work well. Was there two months. Wish I could get another job there. Did not get burned there, but sometimes the boys got burned and cut with the glass, and had to go to the doctor. One lad cut his knee, and had to play for a week for it. The men used to knock us about on the shoulders and head with their hands; sometimes with their fists.

Left day school at 9 years old. Could write a bit then, and read. Could have read that verse (stanza shown) without stopping, but cannot tell all the letters now. Was never at a night school. Go on Sunday. Have not been for the last three Sundays, and never go for a month without missing.

30. *Edward Field*, age 14.—"Spare boy." Go errands for the blowers, fetch their meals, &c. To night am carrying pieces (cylinders) for two men into this building (store). Each weighs 19 lbs., and I carry two at a time, and have to carry 200.

31. *William Tredwell*, age 17.—Push "slides," *i.e.* cylinders, through the opened door into a furnace, in which they are opened out into flat plates by a man. Have done this for three months, and was 5 years grinding the light-house glass.

My regular work is three days and two nights, each of 12 hours, in the week. Came this evening (Tuesday) at 6, and will leave at 6 to-morrow morning. Only stop for the "teasing," *i.e.*, when the cokes are put in. That is done about three times in the 12 hours, and takes about a quarter of an hour each time. Have my meals brought to me here.

[This is work which it is said that a younger person could not well do, and, of course, hot. The witness was eating bread and meat at his work, at about 10 or 11 o'clock at night.]

32. *John Lunn*, age 12.—Grind light-house glass. Mind the machine in which the glass is placed and spins round, and put on wet sand as it is wanted with a small wooden scraper. Get my breakfast and

dinner as I can, by asking another lad to mind my machine. Generally get my dinner between 12 and 1½ p.m., not later. Leave at 4 on Saturdays. Have not got hurt in the machine, or seen others hurt.

[While I was speaking to this boy he hurried away to mind the machine of another boy who was having dinner towards midday.]

33. *Martin Connor*, age 14.—Mind a patent plate polishing machine, and have done so for nine months. If a plate breaks I lift up a weight placed over it and pull out the table on which the plate is placed. Do this without stopping the machine, which moves a number of other plates at the same time. There are four other boys who go round and watch the plates, but they cannot lift up the weights, and they call some one to do so.

We work from 6 a.m. till 8 p.m. on four days in the week; from 6 till 6 on Monday; and from 6 till 4 on Saturday. We have breakfast and dinner, about half an hour at each, when some one comes round and takes our work. The same man always comes to take mine.

34. *Samuel Evans*, age 13.—Don't know how old I am. Think I am about 13. Work in the assorting room. Hours are now (May) 6 a.m. till 6 p.m.; in winter, 7 a.m. till 5 p.m. In winter used to have only a quarter of an hour for dinner. If I work my dinner hour I go home at 5.

Was never at school except on Sundays, but am now obliged (by the employers) to go three nights a week from 7 till 9. Have only been here three or four months.

[The dinner hour was said to be thus shortened in order to gain daylight, which is needed in this department. The boy is slow and ignorant. A boy, age 16, who "squares off" panes of glass with a diamond, can read easily, write, and do compound division; was examined here, but has to go to the evening school.]

35. *John Ward*, age 13.—"Lay on" sheets of glass on a bench for a man. Read (imperfectly), write in a copy book, and do multiplication. 7 times 7 is 14,—is 42,—is 49. Counted in this way, "Twice 7 is 14; three times 7 is 21," and so on.

36. *John Morris*, age 12 (?)—Do not know how old I am. (Looks 11 or 12.) Pick lumps of coal at the wharf and sweep. Before that used to "screen" coal. Hours are 6 a.m. till 6 p.m. always in both summer and winter, with half an hour for breakfast and an hour for dinner. A bell rings at these times. Have my meals here by the coal. Have been at school on Sundays for two months, but to no other. Know "A." "D" is "A," also.

37. *Julia Riley*, age 14.—Smooth glass by rubbing with the hand, and have done so for three months. It is very wet, but I wear clogs and an apron. The clogs keep my feet dry, but sometimes my skirts get wet through my apron. The apron is found for us by the manager. Hours are 6½ a.m. to 6 p.m., with ¾ of an hour for breakfast and an hour for dinner. Some have these in the workshop here, others in the cook-house.

38. *Marianne Edwards*, age 15.—Clean sheets of glass with rags and brush off the enamel when dry to make the pattern. Work piecework and do so many sheets, as four or six, but my general time of working is from 8½ a.m. till 6 p.m. Have breakfast before I come, dine either in the workroom here or going home, but as soon as I have done it I go on at work again. Shall get 8*s.* this week, but never got as much before.

Go to Sunday school. Was at many day schools till two years ago, when I went out to work, but never to a night school. Reads "go astray," &c. That means "running away."

[Is hoarse.]

39. *Mr. James Jones.*—Am timekeeper for 400 persons in different departments, a small part only of the hands. Go round several times in the day to see who is absent, and keep account of the overtime where it is not kept by the managers. The people do not work overtime according to their own pleasure, but only as they are required. The day's work is 10½ hours, but overtime, *i.e.* work done after 6 p.m., or in meal times, is reckoned as if the day were 8 hours only, and when only a quarter of an hour is allowed for dinner a whole hour's overtime is reckoned. Those who live near are supposed to go home to dinner, others eat anywhere. There is no regular room for meals, though some go to a room sometimes. All are paid by the firm. The hours vary very little through the year, but it all depends on the orders. On Saturday the clerks leave at 2 p.m., the people who work their dinner hour leave at 4, and the rest at 5.

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40. It was with difficulty that I could remain a few moments before the mouths of the furnaces where the little shovel-holders work, holding shovels to screen the heat from the hands of the men, to enable them to gather the metal. They appear however to become habituated to the heat, as I noticed some standing at only a few feet distance from the furnaces, in very great heat, even when not required to do so by their work. But bad effects on health are traceable.

41. *Mr. Williamson*, manager.—We cannot do without boys at night, because it is impossible to fix the hours for beginning each journey. There are two houses, and it is arranged as near as may be that work shall begin in one when it ends in the other; the second set of hands starting their journey on Monday morning soon after the first finishes. Founding the metal usually takes about 18 hours, but it may take two or even four more. It would be possible to secure regularity to a greater degree by improving the furnaces and getting better currents of air, and taking care to have only good coal, &c. But pots might go, and that wastes a good deal of time, as any that are broken have to be taken out when the whole pots are worked out, part of the furnace having to be pulled down for the purpose, and new pots put in, at which the hands may be kept four hours. We have perhaps one or two break in a fortnight. It is true that care in securing good pots prevents this risk to some degree. I cannot tell whether we shall ever make crown glass. There is not much call for it now. Young boys of 10 or 11 do not suffer so much from the work as elder boys of 15 or 16, because they are shorter, and they are below the holes of the furnaces, while a taller boy would have his head and body more opposite to it.

42. *Edward Powles*, age 11.—Hold the shovel at the furnace, and also the "jigger," a small trough of water with holes at the bottom, to cool the pipes. Have done so for three years. Have four journeys a week, each lasting 9 or 10 hours. The first begins at about 12 o'clock on Sunday night; the next on Tuesday afternoon; the third on Thursday morning; and the last about the middle of the day Friday. But we always come before the men, sometimes as much as three hours, to get the water in and the things ready for the men; and stay after they are gone to put things away, but not above half

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an hour. Come at 9 on Sunday night. Usually get four nights' sleep in a week; but have worked 18 and 20 hours together, when taking another boy's place in the other house, and have worked two journeys over in a week in this way. A good many of the other boys work over too, which is wanted if there is a boy short. Like working over, because I get 1*s.* 3*d.* each journey over for myself; but none of my regular wages of 5*s.* a week.

Have the headaches very much, and most when working two journeys running. Sweat, too, very much, and have to wipe me. They don't let us stop at all in all the time; we eat, but we has to work. They make us work on, and get our victuals as we can, which we do with one hand, while we hold the "jigger" to cool the tools with the other. We never stop, but there may be breaks of not perhaps half an hour altogether in the whole time.

Got burned five or six times when I first came, from getting in the way of the gatherers who shoved the glass up against me. It burned my clothes and made them flame a bit. Twice I was burned badly. The mark on my hand is where one of the boys dropped something on it. Have very often had my clothes burned. Have got my hands cut from falling on the glass when knocked down, and have cut my arm from tumbling on it when I have been carrying something. There is broken glass on the floor, and when there is a good lot they often make us work a day and a half at clearing it up.

Cannot read. Never had much schooling, though I have gone there for a good bit; but I was so often fetched away for work. Never go to Sunday school now. Left because I have to come to work on Sunday night, and go to bed at 3 in the afternoon to be ready for it.

[A sharp, well mannered boy, lively and cheerful.]

43. *George Brookes*, age 13. — Same work and hours as last boy. Two boys younger than I am hold the shovel in here and another of 15. I work for six men. Came this morning (Thursday) at 8. Had something to eat at 1 and 4 a.m. on Monday, and do about the same in each journey; but you have to get it when you can, as the men don't stop the while. Sometimes you get a minute or two, sometimes only a second; get a mouthful, have to run back to work, then perhaps get a second or so again. Can eat better at home than here. Get meat three or four times a week. Earn 5*s.* a week.

Have headache very often, but more of late; not so much when I first came. Am never more than two days without it; have it most when here. Have not one now. Am giddy sometimes with it, but never tumbled down from it. Am tired when here by nights, but not at all by days; don't feel faint at night. Drink water and tea that mother sends me. Am bad in my breast, and short winded, and have a cold there which hurts me; and sometimes I have to be away from work. Have not been strong all the time I have been here, 14 months; but I was always bad in my breast as a little boy.

My hands get sore sometimes from the water out of which I have to take the jigger to hold it up. When the water gets too hot I call the "teaser" to change it. When I am heaving the jigger, the hot pipe sometimes knocks against my arm and burns it. The burn on my chin is from a hot iron which one of the men pushed at me to frighten me. My little brother, 10 years old, has got two burns now. For one he gave over half a journey, and the doctor belonging to the works dressed it. Sometimes we get burned by running against the glass. I have run against it with my stomach. Another boy, about my age, ran against some with his breast, and set his shirt afire, and burned his breast. It was against a piece of 21-inch glass, the usual size (which weighs 13½ lbs.)

Cannot tell the letters. Was at a day school for five years, and paid 2*d.* and 3*d.* a week. Don't go on Sunday. Three times 7 is (after about 30 seconds pause) 21. Ireland is a little town. Don't know what London is. Think it is a little town; can't say whether it is bigger than Birmingham. The Testament is a book about God. Have heard of the Garden of Eden, but forget about it now, or whether it is a nice place.

[Languid and oppressed.]

Messrs. James Hartley and Co.'s Crown and Sheet Glass Works, Sunderland.

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44. *Mr. James Hartley.*—After the Messrs. Chance of Birmingham, we and the Messrs. Pilkington, of St. Helens, in Lancashire, who are on about the same scale as ourselves, are by far the largest manufacturers of crown and sheet glass in the kingdom. There are only four other firms, one in Wearmouth, near here, one at Stourbridge, one at Nailsea, near Bristol, and another in Lancashire; the four last having about two glass houses each. We have 10 glass houses, nine for crown and sheet, and one for patent rolled or rough plate glass, and we employ between 600 and 700 persons. Crown glass has been to a great degree supplanted by sheet glass everywhere, and is fast going out. As far as system and kind of employment are concerned, one of our houses here for all practical purposes represents all others in the kingdom in the same branch of the glass manufacture. The crown houses have four blowers each, and the sheet houses about nine each, *i.e.* a blower for each pot. Each blower has a gatherer, in most cases an adult, and a boy; and each house has about three boys who do odd work, *e.g.* shovel holders, &c. There are two or three other men but no other boys in each house. This is of course exclusive of the persons employed in preparing the metal for working, who are all men.

Four meltings of metal are prepared and worked out from each pot in a week, each taking for the whole process a period of about 42 hours. Of this, towards 24 are required for putting in the metal and founding or melting it, and about eight for allowing it to settle so as to be fit to work; so that, supposing things to go on well, there must be an interval of about 32 hours between each period of working the glass. From delays, however, there is often more. The actual period of working out the metal is from eight to ten hours.

Accidental delays prevent these periods or journeys beginning at uniform hours, but it may be taken that if things go well, and on the average, a third of the first journey is night work, the second all night work, the third half night work, the fourth all day work. All begin at 12 o'clock on Sunday night, or as near to it as possible. Any delay in the commencement of a journey takes so much from the amount of work which can be got out, as the remainder of the week is only just sufficient to complete four whole journeys even without delays. We think that we do exceedingly well if we finish four complete journeys by Saturday night. On the average we finish by 6 p.m., on that day. We must do so to allow of beginning the next week at the proper time.

Formerly only three journeys a week used to be made, and of longer duration; viz., 12 or 14 hours of each. The change was made when the duty on glass was taken off. The effect of taking off that was to increase the quantity of glass which we produce in an extraordinary manner, the price at which we sell to the consumer being, of course, reduced in proportion. Where we made 20 tons we now make 100, *i.e.*, in a week. This is owing not to the number of journeys being altered, but to the increased consumption and appliances.

We are never likely to make more than four journeys in a week. To make six is of course an

object at which we are constantly aiming, but we see no prospect of it yet. We should be only too glad if we did. There would be no medium between six and four journeys. We should not make five. As far as reducing night work is concerned, with five journeys there would be more night work than with four. It is probable, however, that the men could not work more than four journeys of the present length well.

Belgium and France are the two chief countries out of England in which sheet glass is made. Probably half the sheet glass used in the world at large is made in Belgium. The French make chiefly for their own consumption. On the continent the work is of the same kind and done on the same system, except that the pots used are smaller and the journeys more frequent; and also they work through Sunday. They work by the month instead of by the week as we do in England, making 20 journeys in the month instead of our 16.

Night work, as practised on the system of crown and sheet glass-houses, is not, in my opinion, injurious to health. The boys who work at all must work by night and day indifferently. There is, however, no occasion for our employing young boys at all. I should be glad if there were such a limitation, and have often thought that we might try to enforce this ourselves, but practically we cannot. Younger boys are brought in by parents or friends, and chiefly when the parents are of the lower class of men.

The maximum of age up to which boys could be excluded from night work, and therefore from all work, in glass houses, would depend chiefly upon the neighbourhood. In many places there would be no harm in fixing it as high as 15 or 16, and for our trade generally 14 might be fixed; but it would be necessary to compel the parents to send their boys to school till they come to work.

After all, however, the question of excluding boys under any given age is a matter which affects the interest of the parents and the boys rather than of the manufacturer. But the whole question of the condition of boys in glass-houses such as ours is of comparatively little importance, for in the whole crown and sheet glass trade in England there are not, I should say, more than 200 young boys, *i.e.*, say from the age of 11 to 14, employed in the glass houses.

We are very strict about the treatment of the boys. No man is allowed to strike a boy under any circumstances. We should immediately make the boy take out a summons and bring the man before a magistrate. Indeed we have made our own solicitor appear for the boy. If a man was struck by another man we should make him take out a summons just the same; but we have had no occasion of the kind lately, and I believe that in our houses the boys are all kindly treated and comfortable. A manager is moving about in each glass house all the time, seeing what goes on, and responsible for the conduct of the workers, and if the boys do anything wrong they are amenable to him alone.

Sheet-glass blowers too are a superior set, far above the class generally found in bottle or flint houses. The bottle trade is worse than the flint, I should say, as regards the treatment of the boys, and the men of a rougher class. The superiority of our men may be partly owing to the different character of the work, but I attribute it chiefly to the good system which we have established. We are obliged to keep up very strict discipline for our own interest, but it is a great advantage to the men themselves.

In particular, our strictness as to drink has been very beneficial. Of course we do not attempt to forbid a man getting what he pleases for his own use, but we give no allowances for drink, such as are often given in glass houses for various things, *e.g.*, setting a pot. The effect of these is to make men drink and to teach the boys also. Nor do we allow apprentices to pay "footings," or money paid on entering upon a new stage of work. We have another rule of great importance, viz., that no two or more men should join to send out for drink together. This prevents a man from being persuaded or bothered into getting drink merely to please others when he has no wish for it himself.

We employ a very few females in miscellaneous ways, *e.g.*, in helping the men make pots, in grinding glass, and also in staining or enamelling. Boys are also employed in cutting up the sheets of glass with the diamond. In the rolled plate-glass house there are only two or three boys.

We do not attempt to keep up any school for our boys, or to require them to attend any, which we should find very difficult, especially considering the system of our work; but we subscribe to the schools of every kind and denomination near us, as the simplest mode of doing something for education.

45. *Johnnie Mathers*, age 9.—Shovel holder in a sheet house. Have been here nine months. Don't know my birthday. Came on this morning at 10.30, and the men began working at a quarter to 2. Usually come three hours before the men begin work. Have to put the pipes up, call the men, &c. The men will finish about 11 to-night. (The manager stated that it would probably be about 12, it might be a little sooner or a little later.—J.E.W.) Stop about half an hour after the men leave to clear up, *i.e.*, if there are nae pots to turn. If they have pots to turn, which is once or twice a week, we have to stay longer to get bricks and dabby. Have not had a regular stop for a meal since I came this morning (it is now 5 p.m.). Have sat down about half an hour altogether. We are called at any hour of the day or night. The lads will be on about 13 hours usually, and the glass-makers 9 or 10. When I am off work sometimes I am sleeping and in bed, and sometimes get a play. Get 3*s.* 6*d.* a week. There is another boy a shovel-holder in this house.

46. *William Thomas*, age 12.—In a crown house. Hold the thimble, carry pipes, &c. Came this morning at 8.30, and shall give over at 11.30 to-night. The men did not begin work till 11.30. Usually come two hours before they begin, sometimes three. Have to put bars on, call the men, &c. Sometimes come at 11 p.m. and stay till 2 p.m. next day, or come at 3 a.m. and leave at 4 p.m. and so on. Have had three meals to day (it is between 5 and 6 p.m.) Don't stop work for them. Carry a pipe, then eat a bit, and so on. Haven't sat down to day an hour nor half an hour; just sit down about 5 minutes, then get up and carry the pipes off. Sometimes father, a blower, comes and carries them, for me to stop to eat. Never stop altogether in a journey unless the nose-hole is cold, *i.e.*, not hot enough for the men to work. The men are 12 hours working on a journey, not more, sometimes less, as 11 or 11½. After they stop it will be 30 hours before they begin again. Put my hand up so (to head) to keep the heat off. Must go now to catch punties; know I must because the boy is shouting out the tally (*i.e.*, the completion of a given number). Was only two or three weeks at day school.

47. *Solomon Spires*, manager of a crown house.—A journey usually takes 12 hours. The boys come two hours before the men; come when I do. They get the marvers ready, call the men, &c. We reckon that the men are 12 hours on and 30 off. The time between the journeys is usually from 29 to 32 or 33 hours. In nine cases out of ten the time depends on the effects of good or bad coal. Sometimes the wind is in favour of one furnace and against another. We have doors to turn the draught one way or the other, and sometimes have no doors open at all. If pots break it may take 33 or 34 hours between two journeys, and then when the men come on they have to work a shorter time.

The men are reckoned to make 600 in a journey. Our employer does not allow them to make less than 50 in an hour, but they are oftener under than over the 12 hours. Many times they turn out the quantity under 11 hours, but they are allowed 12.

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We make no stoppages in a journey. Perhaps the men may send a boy, a spare boy, for a pint. The men lie out by turns, say a gatherer and a blower at a time, for eating, but they do not give a boy the same privilege. The boys, however, have plenty of time to eat.

I was at the Messrs. Chance's works at Birmingham. This place is worked on the same plan as theirs, except that there are no "pushers" here, *i.e.*, boys to slide a door before the furnace. It is the old plan to do without these slides. It was thought that they would save the man and improve the work, but we can make as good work without as with them.

A pipe weighs about 16 lbs. It is rather heavy for a boy to carry. I have strict orders not to take boys too little. Mr. Hartley will not allow a man to lift a hand against a boy in here except me.

48. *David Robertson.*—I superintend in a sheet house. The sheet houses all work alike. The men's journey averages 8½ hours, sometimes it is 9½ or 10. The boys generally come three hours before the men, so as to get the pipes out, sweep the floor, put the bars on, call the men, &c. They might do all this in half an hour. They are called so soon and come when I do merely because it is the practice. We look for the work to average 12 cylinders an hour, but the time varies according to the substance, *i.e.* the thickness of the glass. The flatters work from 12 o'clock till 12. That boy (No. 45) was taken so young from mere charity. His father was killed in a colliery and his mother left badly off.

The Wearmouth Crown Glass Co.'s Crown and Sheet Glass Works, Sunderland.

49. *Messrs. John Matteson, and C. Goulton Matteson*, managing partners.—Our work is of the same kind and carried on upon the same plan as that of the Messrs. Hartley here, (*details shewing this are omitted*). The first journey begins as soon after 12 on Sunday night as may be; 2 a.m. satisfies us; it may sometimes be an hour or two later. We must begin thus early, because if time is lost anyhow in the course of the week we cannot fetch it up. All this week we have been trying to make up time, but are still (Thursday) six hours behind. Sometimes work is not finished till 12 Saturday night, but we stop working the metal then in any case, whether the journey is completed or not, and leave in the pots any metal which is not then worked out. This shortens the following period of founding, as there is less fresh metal to melt. The other set of men come on at once then to prepare a set of metal for the Monday's working.

The whole period required for preparing and working out one melting of metal, may be put on the average at 42 hours. Of this two or three hours are taken for preparing the furnace, 20 for founding, 8 for settling, and 9 or 10 for working out the metal. The founding alone, without the settling, used to take from 36 to 28 hours and there were only three founds in a week. The time has been gained, to allow of the present fourth journey, by having larger furnaces and greater heat. The shortening of the time still further so as to allow of having six journeys a week has occupied our attention for many years, but we cannot see our way to it. The hours are much the same in both the crown and the sheet work, except that of the two, the working journey is rather shorter in the sheet. We have had crown journeys as long as 12 hours, but that was when we used to work all the metal out. It is better not to work it too low.

The number of hours required for preparing the metal, plainly will not allow of the work falling only in the day time. Besides this, accidents of several kinds, *e.g.*, breaking of pots, state of the wind and weather, carelessness in feeding the furnaces, and other circumstances which we cannot forsee or guard against, are certain to produce a considerable amount of irregularity. For instance, it would be impossible to foretell now at what hours of a given day or night we should be at work in two or three weeks time. It is known only from day to day. The manager of each house directs when the men are to be called, *i.e.*, as soon as ever he finds the metal ready. It may be at any hour of a day or night, but the workers will have some idea from the previous state of the work, and boys will be hanging about the day before, to find out when it is likely to be ready. All the workers therefore are obliged to live near. The boys are called an hour or so before the men, and stay a short time after the men leave work, say from 10 minutes to half an hour. Three boys have to go round and call the men, and are paid 1*s.* 6*d.* each a week extra for it.

The same causes which make it impossible for us to give up night work of boys would also make any regulation requiring stated meal times impracticable. As a matter of fact there is in most cases a stoppage in which a meal is taken. In the sheet glass work there is always a stoppage of, say three quarters of an hour, sometimes an hour, as near as possible to the middle of the journey, indeed barring casualties, exactly in the middle. While the work is going on, the man who blows, his gatherer, and his boy are going incessantly, and they need the interval for rest. The working furnace also needs to be restored by putting in more fuel. Neither the men nor the furnaces could get through without a stoppage. In crown glass the men's work is of a less incessant nature, and they do not find it necessary to rest so long. They stop, say, about half the time that the sheet glass makers do, and sometimes prefer to go on without stopping at all, or scarcely stopping. It is as the head man requires. But no stated time for taking meals could be named, and if a stated amount had to be given, it might cause the entire loss of work of that amount, *e.g.*, in case of the work being behind hand from delays, so that there was not time to complete the four journeys in the week. This must be done in order to produce the amount of work which will employ and pay for keeping up the rest of the establishment, which is more expensive even than the glass makers. These are paid by the piece, but the teasers, labourers employed in wheeling, &c., the sorters, cutters and others are paid by the week, and must have the full pay in any case. Anything therefore which tended to prevent the glass makers making the full amount of work in the week, would very materially increase the cost of production. If we had to leave, say, a quarter of the metal in each pot unworked, every journey, this would be equivalent to making only three journeys in the week instead of four. The metal itself is not injured by leaving, and some, about a fifth or sixth part, is always left in. It is true also that the subsequent, founding would occupy a shorter time, but more than three fourths. We could not put on more hands because there is not sufficient room for them to work in. We employ regularly just as many as we calculate will be able to get over the required quantity of work in a given time and no more.

There is a spare boy in each house, and he can take the place of the other boys when wanted, so that even if there is no regular stoppage, each boy in turn can get time for a meal.

The time lost in stated meals would also cause danger of diminishing in another way the quantity of work done. The furnaces will not maintain sufficient heat for working beyond a certain time, and the furnace containing the glass cannot be replenished during work. The blowing furnace, *i.e.* that at which the glass maker works, cannot be fired afresh during the time of working; it would spoil the glass; but it is replenished during the "stop." In England two furnaces are used, viz., the melting and the blowing furnaces. In Belgium, where one furnace is used for both purposes, viz., melting and blowing, this must be fired afresh during the period of working. But neither

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the quality nor the workmanship of the glass there, are to be compared with the English for goodness.

In the crown glass house a stated stoppage for a meal would cause a further difficulty. Each disc of glass directly it is finished, is put into the annealing kiln, and carries in a great amount of heat with it, the kiln man has to calculate how much. Thus, unless glass were continually going in or nearly so, there would be a risk of spoiling all the glass in the kiln, from being not sufficiently heated. The cylinders of sheet glass are not put into a kiln or annealing furnace at once, but are simply laid on one side for the time.

We do not like boys much under 14 years of age, but parents get them in younger, though frequently not working under themselves. Sometimes we have had to move a boy from working under his father, because the father seems to expect more of him than he would from a stranger, and to be too harsh. Parents will send their children very early, as young as they can earn anything. Practically also, boys do not get inured to the fires so well, unless they come quite young. To learn the work and to enable us to carry it on, boys should come not later than 15 or 16. We could do without boys under 12 or 13, without serious inconvenience, and prefer them not under this age, but not without boys under 18.

The cutters and other day workers work from 6 a.m. till 6 p.m., with the usual meals, and in winter from 7 till 5, with only 40 minutes for dinner. Sometimes they work till 8 p.m., but it is extremely rare.

We have made great efforts for the education of our boys. We found that there were on the average two clear whole days, and two half days, *i.e.*, equal to three days in the week, in which the boys were off work, and in which there was no reason that they should not go to the national school, which was mainly got up by a gentleman engaged by our firm; and we were willing to pay the expense to induce them to go. But the parents being very well off, we thought it better for each boy to pay 1*d.* a week, as the school would be valued more, and we paid the remainder. We requested the schoolmaster to report the attendance of the boys each week to our manager, but there were great practical difficulties. The schoolmaster complained so of the defective education of the boys, especially the big ones, and the boys had such an antipathy to going, especially the big ones, who felt ashamed of being in a class with little ones, that the manager found it more labour than he could undertake to keep up the attendance; it gradually fell off to two days, one and a half, and one, and finally to none.

The schoolmaster made representations to the school inspector that the boys were so backward, and came so irregularly, that they lowered the standard of his school, and the inspector came down and represented this to us. We then asked the master to take them at a night school, which he agreed to, but after a while said he must decline, as he found the hours too long. We believe that the real fact was that they were too old to learn what they ought to have learned when younger. So what to do now we cannot tell. We cannot get the majority of the parents to educate their children before they are sent to us. Many of the parents who earn good wages are sending their children to good schools in the town of Bishops' Wearmouth; these, however, are the minority. By 13, a boy ought to be able to read and write at least. Some here, we believe, can read. We have had cases, indeed, recently, where even the glass-house boys have shown remarkable anxiety to improve, and these we encourage and help. One in consequence rose to be a clerk in the office, and another a very good warehouseman. But such a desire for improvement is quite exceptional.

50. *Joseph Stanger*, manager of sheet glass house.—I am a Frenchman and have been in sheet glass works in Belgium. The system of work there is the same as in the north of France. Work is by the month, not by the week as it is here, and goes on through Sunday just the same as other days. Men work by the piece making from 85 to 100 cylinders in a journey, and 24 journeys in a month, each journey taking from eight to nine hours.

They do not employ so many boys in proportion as are employed here. The gatherers, who are grown up men, do what is wanted; they gather without a boy to hold the shovel for them. The pots are smaller, about half the size of ours, and the heat therefore less, but the men's faces get terribly burned. A shovel is a great protection. Nor are there pipe boys as here. They use only one furnace instead of our two, viz., a melting and a blowing surface, so that a gatherer has only to carry the metal about four yards. Where the two furnaces are used boys are necessary. Boys, however, are employed there in some branches of the work, as where heavier work is made, and these are brought on and supply workmen to the trade.

In foreign countries generally, *i.e.*, not only in France and Belgium, but in Spain, Prussia, and Switzerland, they work through Sunday in the same way. I have had a brother many years in a glass house in Spain. The work there is on the same plan as in Belgium. In Prussia two furnaces are used and boys employed the same as here. In all countries the journeys are about the same length.

Here each of the 12 sheet glass blowers has a gatherer and a boy to help. The boy puts water on the block, puts the pipes up to the furnace, gathers a little band of metal to be put by the man round the cylinder to separate the end, &c. The gatherer usually cools the pipe. One boy holds the shovel for four pots; it is not necessary for him to hold the shovel all the time, not till the metal is worked a long way down so that the gatherer's hands have to be put close in to the furnace. None of the boys here are much under 13 years old. They should not begin later than 14 or they would not make good workmen. Some begin to learn to gather at about 14.

Here we never begin work before 12 on Sunday night. If the metal is ready sooner, we keep it back the best way we can. We stop work on Saturday night anyhow.

Nailsea.

The Nailsea Sheet Glass Works.

51. These are very old established works, indeed I was told, probably the oldest of their kind in the kingdom. They are peculiar in being in an entirely country district, Nailsea being a village several miles below Bristol. Their situation is probably owing to the presence of coal, as there appear to be several collieries in the immediate neighbourhood. The glass blowers were not yet at work at the time of my visit, a Tuesday morning, but the appearance of the few boys whom I found in the works was much more healthy than what I have usually observed in glass houses in manufacturing districts. One or two whom I questioned, had not begun glass-house work till a comparatively late age.

52. *Mr. S. Bowen.*—There are about 200 persons employed in these work, all males but one, and about 50 of them under the age of 18. We make four journeys in a week, both in the two sheet glass houses and in the rolled plate glass-house. In the sheet glass houses the journey for the men is on the average 10 or 11 hours, or if all the pots are in full work, it may be 12 or 12½ hours, but never more. The boys, however, come before the men to get the things ready, and so work on the average 13 or 14 hours in each journey. Each blower has a gatherer, who is a man, and a boy usually of from 13 or 14 to 17 or 18, who helps by carrying the pipes, holding them at the furnace, &c. The few youngest

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boys who are perhaps from 11 to 13 years old, are called spare boys, and hold shovels at the furnace to screen the gatherers. In the rolled plate house the journey does not average more than 9 hours. In that all but one or two are men.

The work falls about equally in the day and night. As near as any fixed time can be named, the first journey begins some time in the afternoon of Thursday, on which day our week begins, the second from midnight on Friday to 2 or 3 a.m. on Saturday, the third from midnight on Sunday to 2 a.m. on Monday, the fourth on Tuesday afternoon. The times of beginning, however, vary considerably, and the two sheet glass-houses are seldom together. The difference is caused by the delay in setting pots. It is quite a chance when new pots may be needed. A little carelessness in the men who have charge of the furnaces might spoil the whole set of pots. When the working journey has once begun it is not liable to be interrupted or hindered by accidental causes. The pots break only in the founding when the heat is much greater. The weather, unless it is very extraordinary, does not affect us. When the working has once begun it must be finished, or the expense of preparing the metal, which is great, would be wasted. Hence it has happened, but very rarely, only once or twice I think in the three years that I have had these works, that the glass blowers have been obliged to work on Sunday. As a rule we contrive to finish in good time on Saturday afternoon.

Besides the boys in the glass houses there are others, about seven of like ages, called "push boys," who push the cylinders into the kilns in which they are flattened out by men. They work from 6 till 6, days one week, and nights the other, except on Mondays and Saturdays. On these two days the two sets work less, dividing only 18 hours between them, viz., from 12 on Sunday night till 6 p.m. on Monday, and on Saturday from 6 a.m. till 12 p.m. They have usually no work on Wednesday night. A push boy could not properly work over to take the place of a boy in the other turn. Our loss would be too heavy to let them do so. They would be too tired, and if a boy broke even one piece of glass that would be as much as a good bit of his wages. Indeed in all parts of glass house work, the principal thing is to have a good supply of hands. Nothing is so fatal to a manufacturer as to be short handed. The workers will take advantage of it directly as an excuse for not working if a chance arises, so that it is necessary to have some surplus. A woman and a few boys help at pot making, and there is an engine for the clay mill.

The glass blowers stop about half-an-hour in the middle of their journey for a meal. The flatteners have no fixed meal times, but take meals when they stop to put fuel into the kilns, which takes perhaps a quarter of an hour or so three times in the 12 hours.

We could not possibly do without having boys to work at night with the men. It is not desirable that boys should come to work younger than about 12. The loss in increase of wages would not be serious if they could not come till they were 14, as the boys under that age are so few, but that would be going to the extreme limit possible. Even to do the work of a boy of 14 a boy should have been in the house a bit before. The gatherers here I believe are all as much as 18, but boys are learning it before; *e.g.*, before the men come, they gather some glass on the pipe to make the iron fit to begin work.

The English manufacturers are already at a great disadvantage as compared with foreigners. They have been over to France this year to try to get the import duty to France taken off. This presses very heavily upon them, while the French can send their glass here without any import duty. The Belgians, however, are the greatest sheet glass manufacturers, and owing probably to the greater cheapness of their labour, can send their goods and sell them here cheaper than we can possibly make them in England. In one case I found that they could supply at a 1*d.* what I could not make under 1½*d.*; and in another case I found a still greater difference. Since the American war has in a great degree cut off one principal market of the Belgian goods, these have come to England in still greater quantities than before.

Owing to these causes sooner or later there will certainly be a change in the English glass manufacture to enable us to meet the foreigners, most likely by making a lighter class of goods, and so employing younger boys. There is no doubt whatever about that; or at least that something to answer the same end will be done.

The English glass is far superior to the Belgian in quality. We work with two furnaces, they with only one, *i.e.*, for both melting and blowing. The two furnaces are of course a greater expense, but enable us to ensure purer glass. I have been through Belgian and French sheet glass manufactories.

It is quite a mistake to fancy, as some do, that there is anything unhealthy in glass making. The only thing to be noticed is the heat, and that is harmless. I believe that I may say that there is not one unhealthy boy in the works, and that is a great deal to say. I try in every way to make the work as comfortable and agreeable as possible, and particularly to see that the boys are kindly treated, as I feel sure that they are.

We are in a deplorable way in this neighbourhood for schools. There is only one at all near, and that under a governess and dwindling down. The mass here are rough and untaught, and this neighbourhood will suffer for it. The children appear to be taken but little care of and may be seen idling about in crowds. Yet the glass makers earn good wages, the blowers from 2*l.* to 4*l.* a week, and the gatherers from 24*s.* to 30*s.* If the Government could be got to make a grant towards schools I would gladly give towards the fund. When I am able I shall try to have some school in connexion with the works. The boys are very ignorant. That big youth there, who is about 20, I dare say cannot read or write. I also think of trying some way of getting any that I can to attend a place of worship; nothing would give me greater pleasure than to get them to do so.

53. *John Urch*, age 15.—Mind the pipes and blocks in a sheet house. Went to a sheet glass-house first at St. Helens (large works), and held the shovel when I was going in 8; was about 7 years and 6 months old. Father was a teaser there. The work and hours were much the same as here. The glass blowers worked about a ten hours in a journey, and we came about two hours before them. Had to hold the shovel as soon as ever a pot was started; did not wait till the metal was worked some way down. There would be three or four gatherers at a pot. Shovel holding was a deal easier than my work since, *i.e.*, minding pipes, &c., but warmer. There were several houses there and working at different times. Sometimes if a boy was bad in another house I would go and take his turn or part of it. Have gone six journeys in a week so. The most I ever worked at one time without stopping was 24 hours. Had no sleep in that time. After that, would come on again when my own house was ready, perhaps in six hours.

Have not been at school except at St. Helen's, three days a week when off work. Have been here going on for three years. Don't know the letters.

54. *William Day*, age 15.—Push cylinders into a flattening kiln. Hours (as above, No. 52). Have worked over in the place of a boy in the other turn if he was away for part or all a turn. Have worked 36 hours at a time so. Here a year. Have meals when the man puts the cokes in, which stops the work about a quarter of an hour at a time. Was in a gentleman's service before; would sooner be at this work. Was also at farm work.

Cannot read very well (book shown). Cannot read at all; only know the letters.

[Fine healthy boy.]

FLINT GLASS.

Messrs. F. and C. Osler's Flint Glass Works, Freeth Street and Broad Street.*

55. The Messrs. Osler are one of the leading firms of flint glass manufacturers, and the statement of the manager of their glass house (No. 57), gives one of the fullest and clearest accounts which I have obtained of the flint glass house system in reference to the employment of boys. In the glass cutting works is included also a brass foundry department for making metal fittings for various glass articles.

56. *Mr. A. Follett Osler.*—We have two distinct sets of works, one (in Freeth Street) where the glass is made, the other (in Broad Street) where it is cut, finished, and packed. In the latter the hours are shorter than the factory hours, and are very rarely exceeded, and then only to a small extent. There is nothing in this branch of the work to prevent entire regularity.

In the glass making department boys have regular night work, and the nature of the business requires that they should do so. Our glass can be worked only when at a great and uniform heat, and a considerable time, viz., from about Friday night to Monday morning, but with us usually now to Tuesday morning, is required for preparing and heating the material, but in the two latter processes only men are employed. The glass is worked by two sets of hands working alternately for every six hours of the day and night, and this is, I believe, the general system of the flint glass trade, though the length of time in the week for which this is continued may vary in different kinds of work and different places. It is impossible to dispense with the boys during any part of this time. Their labour is cheaper than that of men, and the profits of the trade, notwithstanding its great growth since the removal of the duty, have been so diminished that it is necessary to employ labour of the lowest and cheapest class that is sufficient for the purpose, and boys are sufficient for the work in which they are employed. There is absolutely no margin out of which the cost of dearer labour could be spared. Parts of the work are carried on at scarcely any profit whatever, and are carried on at all only because they are involved in and arise out of other parts of the work.

It would not be possible to employ boys for the day sets only, and men for the night. The boys would leave for other employments in which they could earn a full day's wages, and men could not be got to work for so little as they could earn in so short a period. If they could be got they would be only those of the least capable and respectable class; but the increase of their wages over those of the boys would still be more than the work could bear; and after all the work is such that they would not do it better than boys.

Secondly, as glass blowing is a work of a highly skilled kind, boys must be introduced to it young, in order to learn it, as they do by being with and watching the men, and perhaps in odd intervals taking up a man's work. I cannot say how young it is necessary for them to begin on this account; not under 14 probably, but I cannot say whether 16 would be young enough.

I have often considered whether it would be possible by any arrangements to dispense with the night-work; but have arrived at the conclusion that the practical difficulties are of such a nature as not to allow of this being done.

It is very important that the young should be educated. Even in work those who have been educated are more orderly and tractable as men than those who have not. We have done what we can for the education of our boys, by paying for schooling for them, if they wish to attend, and many have taken advantage of this.

57. *Mr. Lovibond Percivall*, manager of the glass-house.—In flint glass-houses generally the nominal week's work consists of 11 "moves" of three hours each, for each set of hands; two moves being taken together for the same set, and forming a "turn"; but the nominal week is always more or less exceeded, and the excess paid for accordingly. The expression "over-work" will not be employed with reference to this excess, but will be applied only to working in the intermediate turns. The actual duration of work usually varies from 14 to 18 moves, sometimes even exceeding this amount. 16 or 18 moves, however, would be a very good practical duration, satisfactory alike to the employer and the employed. Any plan which would materially diminish the time during which the manufacture could be carried on, would entail a very heavy loss, as the cost of producing the glass in a fit state for working,—the length of time necessary for this operation (about two days),—and the large amount of what may be termed "general "charges," can only be reimbursed by an extension of the working time.

The subject of working during the day and resting during the night has, for other considerations than those now put before me, long ago occupied my attention; but has been rejected as *altogether impracticable*. The number of hands employed is limited by the size of the furnace, as not only is a certain quantity of "metal" necessary, but a sufficient number of places in which the men may keep the articles, in course of making, at a due heat. Small articles are made at the mouths of the pots which contain the metal; but for larger work small detached furnaces, called "glory holes," are employed, or a pot is specially prepared in the general furnace with a sufficiently capacious mouth.

In some places, and especially where "pressed" work is made, the operations of "founding," (or preparing the metal) and working go on simultaneously; but this plan, for various considerations, is not convenient where work of the highest quality is almost exclusively made.

Taking it as an established fact, and I believe it to be indisputably so, that the glass manufacture can only be profitably carried on by day and night work, it next remains to consider whether the employment of boys and youths under 18 is necessarily a part of the system. Each "chair," or set of hands, consists of four persons, viz., the "workman," who finishes the article; the "servitor," who prepares it by "blowing," &c. for the workman; the "foot-maker," who assists the servitor in a subordinate degree; and the "taker-in." Of these the foot-maker is frequently, and the taker-in always, under 18. The age at which boys usually come to work is from 11 to 13. I have rarely taken boys at an earlier than the former age, and then only at the earnest request of the parents or friends, to whom the assistance of the boy's wages has been a matter of moment. They usually leave about 14 or 15, as, from the unskilled nature of their employment, there is no progression of wages, and there is not much opportunity of rising to a higher position. During the period in which I have been manager here, *i.e.*, between eight and nine years, the total number of boys employed as takers-in (12 being required to form the full number of chairs,) has been between 80 and 90. Of these only four, or say one in 21, have been taken on here as apprentices or under "articles"; the other foot-makers' places being supplied by persons who have received their training as foot-makers elsewhere, or who have descended from a higher stage.

The supply of foot-makers must be:—1stly, from boys apprenticed or articled; 2ndly, from boys "put

*The name of Birmingham is omitted from this and following headings till No. 108 inclusive where the street or place is in or near that town.—J. E. W.

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"on" without articles; or, 3rdly, from men who by age and other circumstances have lost the competency to "serve." In the last case a man who is unfitted, by age or infirmity, for "serving," will not usually be a suitable foot-maker for a best place; and there is commonly an objection to the employment of such men, inasmuch as their former position makes it very unpleasant for them to submit to the kind of treatment to which the person in the lowest grade is liable. This remark would be still more forcible if applied to the prospect of old men being employed to do boys' work.

The age at which apprentices are usually taken on is about 14. I should feel exceedingly opposed to taking an apprentice of 17 or 18; both, because at this age they would possess less capacity for acquiring the necessary dexterity, (I am speaking now of youths being apprenticed who were not previously in a glass-house, because we have seen already that takers-in do not remain to this age) and because the short period before attaining their majority would leave no opportunity of recompensing the loss during tuition. As to the probability of men voluntarily remaining in the lowest grade, or at apprentice's wages after attaining 21, it would be simply fatuitous to expect it.*

Since, then, about four years of an apprentice's life would be passed under 18, any interference with their night labour would be attended with very serious inconvenience. It would not merely be a pecuniary loss, as requiring hands at a higher rate of wages, but in the majority of cases *no means* would exist of supplying the deficiency, and the whole chair would be rendered comparatively useless; indeed I may say entirely useless, since from a chair of four persons two would be taken away where the apprentice was under 18; and it is not merely that *less* work would then be made, and at a higher comparative cost, but it would be under these circumstances *physically impossible* to make the majority of articles *at all*. In addition to this, the period of unproductive labour, or that occupied in the apprentice acquiring a certain degree of manipulative skill, would be lengthened to *twice* the extent by the removal of night labour, and a still further extension would result from the very small time during which he would be receiving instruction. A marked distinction must I think be drawn between mental and manipulative instruction; in the former case a few hours out of the 24 may be adequate to impart all that the mind can usefully retain and assimilate; but where the skill to be acquired is mainly in dexterity of touch, a lengthened practice alone will ensure it. The usage of the trade commonly limits the number of apprentices to two to five chairs; or, in some exceptional cases, two to four chairs. On the whole I should say there is a deficiency of labour in the lower skilled grades. This deficiency is not by any means properly supplied by the employment of aged workmen or servitors. After a patient trial† of this plan I must confess my belief in its utter inadequacy. Old men are frequently, in the nature of things, intractable and opinionated, and instead of improving in the quality of their work they must of necessity retrograde. They are also less fit to bear overwork; in fact their employment is replete with difficulties, and a place, where they were extensively employed, would be little better than a hospital for the trade.

The work of the taker-in consists principally in cleaning off the "blowing irons" and "punties;" picking up the waste metal necessarily made in working; carrying the finished articles to the annealing "lears" or "kilns;" occasionally "warming in" the "posts" or "punties" upon which the work is to be held; tempering clay for varying the apertures of the glory holes; bringing in coal for the glory holes; and preparing clay for building up the places at "pot setting." They usually receive from 3*s.* to 3*s.* 6*d.* per week of 33 hours, and 4*d.* per move of three hours over that time. On account of occasional vacancies, or from extra boys being required for certain operations, the boys have sometimes an opportunity of working "over." These opportunities are generally eagerly embraced, great anxiety being evinced by the boys to obtain the over work, although they usually get but a small proportion, if any, of the extra wages thus obtained. Their wages do not increase with the length of time that they may continue in the house, and hence, as before stated, they seldom remain beyond 14 or 15. Their occupation is by no means an unhealthy one; comparatively few lose work by illness; certainly illness is not more common to them than to those unemployed, or otherwise employed.

As to supplying their place by labour of a more expensive nature, I should consider it very impracticable, and very unjust to the glass master. The cost of production is already necessarily so high that it requires the conjunction of several favourable conditions to guard against a positive loss. The sources of supply of labour in place of boys, premising the impossibility of meeting the want by mechanical contrivances, would be, first, female labour; second, youths; and third, old men. The first is inadmissible; the second, on account of cost and probable deficiency of supply, most unlikely to succeed; and the third would involve the anomaly of increased cost with *less* efficiency, for, in addition to former arguments against the employment of old men, it must be remarked that they would rarely possess the activity of movement essential to the taker-in; they would be *much* more liable to lose work by illness, as I have abundantly proved by practical experience; and they would be even less able to meet the requirements of overwork. In point of fact, I have frequently found that when old foot-makers have worked over, they have lost work in their own chairs. In short, it must be self-evident that their vitality is approaching exhaustion, and that they are unable to meet the requirements of any pressing exigency without serious inconvenience. I may be permitted to say that my remarks on the employment of old men are the result of observation and experience, as motives of benevolence have prompted me to use every opportunity of assisting them to occupation in any way suited to them. For chairs making certain kinds of work these men will continue to be employed to a certain extent, but for first-class work they are utterly useless. The constant glare and heat of the glory-holes and furnace affect the eyesight at a comparatively early age, and the hand becomes tremulous prematurely. These effects are sometimes attributed to drink, but it is an unjust conclusion, as I have noticed them in men of thoroughly sober habits.

Returning, then, to the necessity of employing boys at night, and occasionally for longer periods during the day, it is to be noticed that overwork is by no means certain or continuous. An example or two, taken promiscuously, of its amount may be given. In a week, when all the 6 chairs in the first turn made 13 moves each, the 6 takers-in made the following overtime, viz.:—2 of them 5 moves each, 2 of them 4, and 2 of them 3. One of the takers-in in the second turn was absent, so that his 13 moves had to be made up, and the remaining 11 moves were caused by the fact that a peculiar kind of work was being done. In another week, when all the 12 chairs made 17 moves each, 4 of the takers-in made 19 moves each, 2 made 18, 5 made 17, and the remaining one 15 moves.

A very important question in relation to glass-house boys is that of education. This subject is of the deepest interest both to our principals and myself, and has frequently received careful consideration. It is confessedly a difficulty. We have for some time done what we could by encouraging the boys to attend an excellent night school in the neighbourhood, the firm paying all expenses of fees and books; and I

* At Bristol the brushmakers' society compels apprentices to complete their seven years though over the age of 21.—J. E. W.

† Quære "consideration"? No such plan appears to have been regularly worked, though individuals have been tried.—J.E.W.

have also tried the plan of a bonus for good attendance. The school is open during about nine months of the year for four nights per week. The first turn boys, being at work on most of the nights, cannot, of course, attend; the second turn boys can do so by taking an hour or so out of their interval of rest; and it is my request to the master that our boys may be discharged at an earlier hour than the others. In a session of 36 nights I note the following particulars of attendance: —First turn boys,—one attended only 8 times; two, 15 times; one, 13 times; one, 11 times; and one, 14 times. These boys might probably have attended 16 times. Of the second turn boys, one attended 33 times; one, 29 times; one, 20 times; one, 15 times; one (who was only a part of the time in our employ), 17 times; and one (who lived at a distance) did not attend at all. It is, however, perhaps too much to expect them to profit much by the instruction which they receive; but I am decidedly of opinion that it has had a humanizing influence, and I believe more might be done in this direction by a modification of the times and manner of instruction.

Whilst feeling thoroughly assured that it would be destructive to the trade to exclude all under 18 from night work, I should be exceedingly glad to see some scheme devised for enforcing a certain amount of education. This, I conceive, might be attained by fixing a minimum of age at which boys should enter a glass-house. Probably, considering that a certain size is necessary for our work, and also the greater difficulty of obtaining education after entering a glass-house, the age of 12 might be fixed upon as the minimum; and I would make education prior to that age compulsory, but easily attainable.

I see no means whatever of meeting the difficulty with reference to apprentices as foot-makers. Boys under 18 must assuredly be employed, or the skilled labourers must die out, and the trade must come to an end in the country where such restrictions are imposed. Glass-blowing, perhaps more than many other manufactures, requires extended culture. So much so, that without ability a person may never rise beyond the stage of foot-maker, and similarly, as much from lack of skill as from want of opportunity, a man may never become a "workman," although he may be a fair servitor. This evil would, I think, be magnified by putting on youths of advanced age to learn. Again, if the age at which apprentices were taken on was advanced so as to meet the question of night labour, we should be much worse placed than we are at present, in comparison with other trades. Parents would not put their sons to the glass trade when they might, at a much earlier age, place them in other occupations; especially remembering that at this advanced age they would only, of necessity, be worth the same wages as at four years earlier by the present system.

The question of half-day work does not much affect us, as the plan of relays already secures that end. Twelve hours at a time would be too severe for either boys or men to stand continuously, and would not answer so well as the relay system. I once proposed intervals of 8 hours, so as to alternate the day and night work, but the idea was disliked by the men.

58. *George Arthur Wood*, age 11.—Here more than a year. Am a taker-in. Came at 12 (noon) to-day, and will leave at 7 to night, and come again at midnight and stay till 7 to-morrow morning, and come again at 12 or 12½ to-morrow (mid-day). Have dinner before I come, and stop for half an hour or 20 minutes for tea at about 4 or 5 p.m., but have no regular stop when here in the night. Breakfast at about 8, when I get home in the morning. Have meat at dinner and here in the night, but eat it as I work. Drink tea and coffee, and get water from the pump when I want it. Am paid by the manager, according to the number of turns which I work, at 7*d.* a turn. For six turns a week get 3*s.* 6*d.*, for eight, 4*s.* 10*d.*; generally about seven turns, or 4*s.* 2*d.* All are paid by the firm.

Am not short of breath, but very often have a cough; am not many days without it. Get it when I go out without my jacket and catch cold.

Was two years at a Church day school, and go to school on Sunday sometimes, and very often to church. Mr. ——— reads about God, and tells us to be good and that. Cannot read. Just know the letters (Does). Have not heard of Africa. Forget now whether I heard of France. Have not heard about the Queen or her name. Would know it if I heard it. (When asked, "Is it Victoria?") Oh, no! don't know it when I hears it so. Know 1 and 5, but cannot read "15." Go to the night school on Monday and Friday, but have not been on other nights lately, because I was not strong, and could not go when I was at work; and so Mr. Pearce (*next witness*) said we need not go. Mr. Percivall (the manager) pays 6*d.* a week for my going.

Went to work at steel-pen making first, and worked at breaking-down at the rollers, but only stayed a week, because it made me bad, and mother would not let me stay. Had to go into the pickling shop to fetch the steel about every 20 minutes, and the pickle got down my throat and on my stomach, and made me sick and bad. There was steam from the pickle, and it came where I stood. Was well before. After that I went to umbrella making, but not to call work, for mother wished me to come to glass making as soon as I was big enough.

[The wish of the mother arose from her husband having held a good position as a glass worker. The boy looks delicate and has a weak voice and depressed listless manner. When asked how many boys work with him, only five, is unable to count them.]

59. *James Pearce*, the "workman" under whom last witness works.—I wish to let you know that boys cannot go to evening school, as is expected of them, when they are at work. It is a very good thing for them to go to school, but they must have their proper rest. This set leave at 7 p.m., but if they go to school then till 9, as they have to be back at work about midnight, it leaves them only two or three hours' sleep, and that ruins the constitution.

Know how I have suffered from the work myself. Have been in a glass-house 42 years; *i.e.*, ever since I was 9 years old. My hours of work were the same as those of the boys here, which are general in the flint-glass trade. If you attend to work, as a boy you get only about 4½ or 5 hours clear at a time. By the time you have had a wash and got a bit of something to eat, there is little time left beyond what is wanted for sleep and getting back to your work; scarcely any for going out. You leave work at 7 a.m., and get home and have breakfast by 8; then to bed till about quarter to 12, and up just in time to have dinner, and back just in time to begin work. My own father, who had been in the glass trade, and my mother were very particular, and made me always go to bed in the day for about as long as I did in the night.

My health was pretty good till the last four or five years, since when I have had breakings out; *i.e.*, carbuncle, whitlow, &c.; but I am pretty strong myself; and my health is "no criterion" of others. They are not all so. A young man last week had to give notice to leave because of his lungs.

A glass maker must eat and drink rather rough when at work, though I never drink myself when off work, though I keep a public. You are up so short and working in such heat, that you get "nesh," though not exactly hungry, and want something enticing, as hashes, and soft things, &c. Have about four meals a day, and generally meat. Am obliged to watch the glass all the time as I hold it in the furnace, or it would spoil. Though I have been a "workman" 30 years I have not had to look into such a bright hole as this for more than six or seven. For about

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the last two or three years my eyes have been affected, and I have to wear spectacles. Think it is from the brightness of the furnace.

[His eyes are inflamed and watery.]

60. *Stephen John Hynett*, age 10. — Here five months. Am a taker-in, and have the same hours as the other boy (No. 58). Should have come at 12½ p.m. to-day, but did not come till a good bit arter, viz., 20 minutes to 1. Have dinner just before I come at mid-day, tea about 4½, and shall have something at about the same hour a.m. Generally have tea and bread and butter; not often meat. Am paid according to the number of turns in the week. For six turns 3*s*., for eight, 4*s*.

Was two years at a Church day school, till I went to work. Have been on Sunday sometimes, but do not now. (When asked why he left off, does not answer, but his brother, who is by, says it is because he has no clothes, J.E.W.) Go to the evening school on Monday and when I have done work on Friday. Can read (only one syllable words). Can spell "entrance." Do not know what it means.

[The brother, a little older, says that he can read better himself, and goes to school on Sunday, but not very often. Of the other boys the eldest reads fairly, the remainder say that they can all read a very little.]

61. *Arthur Edward Arnold*, age 13, taker-in.—Am come in now (Monday afternoon) to get the "horse" ready for the foot-blower to put the "marver" (polished steel plate) on, put the clay in its place, &c., so as to be ready to begin at once to-morrow. Have made four turns over in a week because there was a different kind of work. Mother puts all my wages over 3*s*. in a club for me. When I make overtime I get 2*d*. of it for myself.

Go to the Sunday school and to the national school when I have got a chance. Can't hardly on Friday, when at work then. Got a prize for going 72 nights last year. Mother made me go. Can read. Could remember it better before I was here.

[The horse must be got ready each time, as if it is left in the glass-house the heat dries the wood too much. When I found this boy no other glass "maker" was present, work not beginning till Tuesday morning.]

62. *William Leggatt*, age 15.—When I first came here (the glass cutting works) from a brass founder, three years ago, I waited on the men, carried up the sand to them, washed off dirt, and sometimes put on putty for a man when he could not himself, because using both his own hands to hold a large piece of glass on to the wheel. After a year I began puttying, which took about a year to learn. Hold the glass on the wheel with one hand, and keep putting on (liquid) putty with a small bunch of straw held in the other, so as to polish the glass and prevent it from cracking. This wets my hands and splashes a good deal, but I wear an apron and a slop (canvas frock or jacket), both my own, to keep my clothes clean. Wash my hands and arms generally, not my face, in a bucket here before leaving, and wipe them on my apron. There is no towel.

Have been bad "now and again" with the bowel complaint; only once since Christmas. (It is now early in May). It is a very bad pain. The doctor says it is caused by the putty, and gives me medicine and a mustard plaster. Never had the pain before I was at the frame using putty. Have a good appetite and no coughs. My throat was bad last week, but does not hurt me now. (He is hoarse.)

The hours are from 7½ a.m. till 6½ p.m., and there is very seldom any overtime, but sometimes there is for one, two, or three hours, and we once stayed till 10 p.m. Have breakfast before I come, and go home to dinner at 1, and never begin work before 2. Earn 5*s*. a week, and rise 1*s*. a year. Mother gives me 6*d*. of it to buy my clothes. I am paid by the firm.

Was at school till I went to work at 10 years old. Can read (slowly but without mistakes). Can write small writing, and do "straction."

[Looks delicate. His face is splashed with putty from his work. This and the remaining witnesses are in the Broad Street works.]

63. *George Walker*, age 17.—Smooth at a wheel, always wet, and sometimes I putty. Polished before. Have been at the work altogether five years. The work don't suit anyone. It's nasty poisonous stuff. It makes you feel very low and fatigued; feel very funny. Feel too as if you wanted to cough. When you use the wheel nothing near so much dust flies off as when you use the (revolving) brush, which you must for mitre-cut work, which the wheel will not reach (the cuts being fine). Have worked as much as half-a-day at a time with the brush. There is no rule as to how long you may work with the brush.

[A workman near says that when three or four brushes are going, as is the case at times, there is such a cloud that a person cannot see along the shop.]

64. *Thomas Freeman*, age 15.—I putty and also polish. Have done so for three years, and was here at other work for a year before. Have the headache, but was always used to it; have no other pain. Got my hand in the band of the wheel just now, and do so at times. Should have to look sharp then or would get drawn under it. Some one could stop it, but I could not myself. Never saw any one drawn in by the band.

65. *Joseph Aston*, foreman of the glass cutting shop.—Have been at glass cutting 32 years. There are two youths under 18, (He omits probably the witness George Walker, who is nearly 18,) and four young boys helping here. Generally take them at about 11. One is 10, but that is the youngest I have had, and was only taken because his mother came and begged so. These young boys get 2*s*. 6*d*. a week.

Puttying is the most injurious part of the glass-cutter's work, whether done on the wheel only or with the brush. It is injurious to the hand, and the stuff of course gets into the pores of the skin. You cannot avoid it. The doctor has told us this. Doctor Waller was making many investigations about it some time ago, and had interviews with glass-cutters. Washing is the best thing to prevent its bad effects. It draws the hand up, and takes away the use of it. There is an elderly man in the shop now who suffered from this, but he has returned to work. Putty is used both in polishing and finishing. There is no rule as to how long any one may be engaged on the most injurious parts at a time. Each has to finish his own job, and he may be at the bad part more than a day at a time.

Getting caught in the bands is the regular thing, especially when putting the bands on to the wheels; and I have known many cases of this, but not so much here.

66. *Ebenezer Parker*, age 17.—File and turn metal at a steam lathe in the brass foundry shop. Filed at a vice here for five and a half years before I began at the lathe half a year ago. Grind my own turning tools at the grindstone, generally for five minutes two or three times a day. Have no cough except in winter.

Was at school in London, paying 4*d*. a week, till 11 years old, when my father died, and I was sent down here. Have been at Sunday school ever since I came here, and to night school for two winters. Can read, write, and do compound division.

67. *George Button*, age 12.—Turn screws, &c., in the brass foundry shop. Before I was here was at a screw factory. Blew the bellows with one hand and pulled the screws out of the fire with the other; so was close to the fire. It was very hot and I did not have my waistcoat on as here; but it did not always

make me wet. Had a coat, but seldom put it on when I left work, because I was so hot. Often caught colds there. The regular hours there were from 6 a.m. till 8 p.m., but we had to go as early in the morning as we could,—at 5 sometimes. We stayed after 8 p.m. more often than not; my latest was 9. Had an hour for dinner, and half-an-hour each for breakfast and tea, for all of which I went home. There were other boys there and many men. Had 2*s.* 6*d.* a week there, and have 3*s.* here.

Was at day-school a month once. Began to go to Sunday-school just before the Princess was married: the Sunday scholars were to have a breakfast. Go still (May 1863) to the Sunday-school. Read (short words). Always knew my letters. Mother always learns me at home at night.

Mr. A. Arculus', Flint Glass Manufacturer, Broad Street.

68. *Mr. Alfred Arculus.*—All who work in the glass-house here, except the takers-in, are over the age of 18. The general age for taking boys as apprentices, for which the quicker and more promising are chosen, is about 15 or 16; others begin foot making, not as apprentices, at from 16 to 18.

If boys under 18 were prohibited from working at night, it is possible that the taking in might be done by men; but this requires an increase of wages which would so seriously affect the remuneration as to make the risk and trouble of the business scarcely worth undertaking. The greatest objection, however, would be that it would prevent the training up a supply of skilled labour. I do not see any necessity for boys under the age of 14 in a glass-house; but between that age and 18 they are important.

In the glass cutting shop 2½ hours, or a quarter of a day's overtime is occasionally made. All, both in this and the glass-house, are employed directly by me.

If all were receiving education up to the age of 14, it would be much better for themselves, their employers, and society. I believe that every man at the head of a chair here could well keep his children at school up to that age without any of their wages.

69. *Alfred Higginbotham*, age 14.—Taker-in. Am in the second turn, which begins work at 12 in the middle of the day on Monday, and works every other six hours up to Thursday evening or Friday morning. For the last four weeks it has been till Friday. Will get to bed by 8 to-night; up again at ¼ to 12 p.m., and here in a few minutes. Breakfast at 5 a.m. here. We don't reckon any time for it, but stop till we've eat it, and then go on again. When I leave in the morning I go straight off to bed; get up at 11½ a.m. again; have dinner, and here before 12. We must go to bed each time, or we could not do the work. Always do go to bed unless I am working over, *i.e.*, taking the turn between, which makes 18 hours' work running. Did this three times last week, and will have done it three times by the end of this also. Never miss a month without doing it, and sometimes do it two, three, or four times in a week. Fall sleepy, but am obliged to lighten up as much as I can. Could often fall asleep when I come at night till about 4 a.m.; but we liven up then. Have seen a boy about my size, but older, who has now left, fall asleep after working several turns over running. He would come on a Monday morning, say, and work straight on to Wednesday night without going to bed, taking both his own turn and another boy's. Have worked about 36 hours myself without going to bed. What I get by working over I have for pocket money; of what I earn usually for regular wages, about 4*s.* 9*d.* a week, I only get what mother gives me, 4*d.* or 3*d.*

Don't ever play in the morning. Work tidy hard, and have about as much as I can do with it. When I leave work I undress and wash me, and feel less tired then than when I get up again. Am away with the sick headache sometimes, but when I am bad it is generally with a cold. When I have been sweaty and have to run out with an errand a mile or so with only my shirt and trowsers on and it is very cold, I catch cold. Or we play with one another, and throw water, and catch cold so. At times something comes over me so while I am at work that I can hardly breathe; it hurts me very bad too. Have had this once or twice a week for about three months, never before. Have never complained of it.

My hand is tied up for a hurt got while I was "warming in," *i.e.*, holding the iron into the furnace. The servitor put his iron with the hot glass on across me, and took a piece out (*shows the raw sore*).

Can read "and, the, and so," but not more. "51" is "50." Was at day-school 2½ years once, never at night, and have been sometimes on Sundays; but sometimes lie in bed all the day. Used to do so when I first came to a glass-house two years ago.

70. *Charles Burrows*, age 13.—Taker-in. Am in the first turn, and begin at ¼ to 6 a.m. on Monday and work till 12, and so on six hours on and off till Thursday night. Stop for breakfast at 9 a.m., and also at 9 p.m. Was in bed till 5 this afternoon, but sometimes when away do not go to bed at all. Am very tired at times. Have worked four turns together twice. At Harris' (large glassworks now shut up, J. E. W.), where I was 2½ years, they always wanted me to work over. Have that money for pocket money. We often get burned if we ain't careful. This burn was from the metal slipping.

Do not know T, E, or D. Never was at school in my life. Have got no things to go in. Earn about 5*s.* 4*d.* a week regularly. Father is a brickmaker, and I have two brothers at the same work as myself. Do not know of Queen Victoria, or what the sea is; but have heard the name on it.

71. *Charles Samuel Vaughan*, age 12 years 11 months.—Been in a glass cutting shop since 8 years old, and was at wheeling coal for half a year before. Smooth, polish, and putty at the frame all day. Began a few months ago. Do not finish all my own work.

Can read, write, and do multiplication and addition. (Reads "place" as "black," &c.) 3 times 9 is (after much thinking) 27. Was at day-school for a bit, and have a prize every six weeks for going regularly twice on Sunday. Also go three nights a week to Winfield's school. (The Messrs. Winfield, of whose school an account is given in the evidence on the Birmingham metal manufactures, till lately, owned these glass-works also.—J. E. W.)

72. *Patrick Wayland.*—Metal mixer. If a man has not strong lungs, this is the very worst work in the world. The bottoms of the nails are the places where it affects you first, and then it goes all through you. It is a great thing to be temperate, but some will knock about and drink. There are not many who have been at the work so long as I have, viz., 11 years, but I have never been away a day.

Mr. H. Sarson's, Flint Glass Manufacturer, Upper Windsor Street.

73. *William Price*, age 15.—Taker-in. Am now working over, as they call it, *i.e.*, working in the other turn. Do so whenever I get a chance, because I get 9*d.* for myself for each turn over, but my standing wages of 5*s.* a week I take home. Have worked 8 turns over and had only 24 hours sleep in a week, resting only for a turn now and then.

Was always pretty well before being in a glass-house, which is now three years. Since then have been "drowland like," and have headache, and cannot eat when I am at work. Am not giddy unless when working over. Have been giddy this afternoon.

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Never tumbled down from it. No, am not strong now ; was very strong before I came to work at a glass-house. Can always breathe well. Often catch colds when I am hot and go running in the street of errands without anything on. It would not take long to slip my waistcoat on, but the men won't let you stop for that. Am 'most always catching cold in the summer ; the wind must catch hold of you. In winter we are not so hot in the glass-house, and work in our waistcoats. Even in winter I come only in my waistcoat ; I live close by, and if it were frost or snow it would not take long to run home through it. Never went to the doctor, but mother gives me medicine for colds, &c. Wash when I go home. Wear the same shirt day and night for half a week. Never sweat much myself ; others do.

Can tell my letters, but not spell. Am going to school next Sunday because father told me. Have not been many times at a church and chapel ; three or four, or four or five times in my life. People go there to hear about the Lord. He reigns over us. Christ cured the lame, and blind, and was crucified. Heard that at Sunday school. France is a town ; isn't it ?

[Unhealthy looking and pale. Intelligent. If he really did work 8 turns over and had as it appears he did, one or two turns rest, and he could not well have done with less, his own turns, which he would naturally work, must have been at least 9, probably 10, possibly more; but taking 10 as the most probable, this gives a period of 120 hours, broken only by two intervals of 6 hours each. The full amount of work implied by his statement did not strike me till I reckoned it up afterwards, or I should have questioned him further as to so improbable a fact.]

74. *George Burnsley*, age 15.—Taker-in. Have been at three glass-houses before this. Have worked as many as seven turns running ; and five turns running often.

Was never at a week-day school. Go on Sundays. (A man near says that he saw witness playing at "pitch" on Sundays at school time, so that he cannot have been there.) Do not know "I" or "B."

75. *Thomas Winchurch*, age 13.—Taker in. Am in the second turn, *i.e.* from 12½ p.m. to 6½ p.m., and from 12½ a.m., to 6½ a.m. Will wash me and get to bed by 8½ this evening, and be called by the "teaser" at 12¼ a.m. Begin work on Monday at dinner time, and finish on Friday night, except at Christmas time, and then work till Saturday morning. Generally work over one turn or so a week, and sometimes five turns. There are six boys in each turn, the youngest 12, the eldest 15. Am now trying to blow a bowl, as it is tea time. Generally try when I have got time, as now, when stopping to have our tea. Can read a very little. (Can.)

[These three boys all agreed that they worked over, every week, one turn or so at least, often more.]

76. *George Gage*, age 15.—Foot-maker, and have been so 2½ years. Have been in a glass-house six years. Have not good health.

[Very pale and thin.]

77. *John Jones.*—Metal mixer. Plenty begin to "blow foot" at 17 or 18 years old, some at 20 or more. These do not remain as takers in up to that time, but do other jobs. Should say that 16 or 17 was the common age for beginning to "blow foot."

78. *Mr. Thomas Miles.*—Manager. Boys work over to take the place of other boys who are away, or if another boy is wanted for a particular kind of work, as the press, at which a boy is wanted to hold the punty iron to the glass to lift it out of the mould. We use the press but very seldom, perhaps once a month ; in some places it is used almost every day. If boys are away from work it is generally their own fault, not from ill health. There is no system or order in which the boys are taken to work over ; those who wish it most have the work. It is, I believe, the general custom for them to have the money which they make in this way for themselves. They must begin to be foot-makers before they are grown up, for they could not stay till that time at a mere taker-in's, *i.e.* boy's, wages, and if they went to other work meanwhile they would lose the necessary familiarity with the work. Many never get beyond being foot-makers at all. There are middle-aged men here now who have not. This depends upon their want of talent for the work.

79. *Samuel Bevan.*—Foreman of the glass-cutters. There are two cutting shops with men and boys, and a shop with men, 7 women, and a girl who rough glass at steam lathes.

I was brought up as glass-cutter from the age of 14, and have had many years experience of the trade, and have had occasion to make myself generally acquainted with it by correspondence, as well as having seen it personally in many parts of the country. There are in the whole trade something under 1,300 men, and rather less than a fifth of that number of apprentices besides. There are in addition young boys to wait upon the men according to the size of the shop, perhaps on the average about one to a shop of 20. These boys have not the strength to carry things and do what is wanted till about the age of 12. I have taken younger out of charity, some being without friends able to support them or neglected by them. A boy has not the strength or knowledge, both of which are necessary, to begin cutting till the age of 14.

The healthiness of the trade depends entirely upon cleanliness and ventilation. If a person will eat dirt, he must. I mean literally eat dirt, as a person must if he eats without cleansing his hands after work. I keep a watch over this, and if I see any negligent, or, as some do, rubbing up the quick at the bottom of their nails, which exposes the flesh, and is therefore very bad, I caution them. Every one here has his tub of water, and as much fresh as he pleases. In winter the engine pumps up hot water. The drop of the hand, I am convinced from experience, comes from a strain upon the muscles, such as is caused in particular when men have been drinking and have to clutch the glass very tight. If there is any fear for the hands, washing in olive oil will make them right. I did so myself at one time. A little castor oil will do for the pain in the stomach. I have not suffered in health myself, nor have any of my relations who have been engaged in the trade.

The shops also should be well ventilated, both on account of the number of breaths and of the pernicious material used. There should be only about two-thirds of the usual number of slates, so as to allow the air to escape between. This shop is extra well ventilated, having openings at the side under the slate, through which the hand could be put, as well as traps above.

The empty places here are in consequence of some men having been just discharged for drunkenness. Drinking is ruinous. I like myself and other men to enjoy as much as is good, but not boys. If men drink at work it teaches the boys. That is a shame ; and I never allow drink to be brought in at work. I object altogether to girls working in factories.

It is a noble thing for the Government to try to improve the condition and education of the boys. I once got some assistance and took a room, and had 30 or 40 little lads in it, preaching to and teaching them on Sunday, and at my spare times in the week, and got on very well with them ; but after a time was obliged to give it up, because all the expenses would come upon me, and also certain abuses had arisen. But after all the important education is that of the fireside. What is taught there is remembered.

80. *John Smith*, age 11.—Wait on the men in the cutting shop. Went to work at guns when going in 8. Had to carry them about, and got 1*s.* 6*d.* a week. Went at 8 in the morning, and the man used

to send me home at what time he had a mind at night, at 9 or 10, sometimes at 8½ or 7½. Went from him to another gunman. Was the only boy at both. Left the first job because I had a pair of boots that crimped my feet, and I could not get about quick enough. I told the man I could not go quicker, but he used to hit me about the head with a file haft, and throw things at me. The next man did not beat me; mother had "knowed him ever since he was a little babby."

Don't know all the letters. Was never at a week-day school, and only two or three times on Sunday; and never at a chapel except when I went with the school. People go there to hear about God. He made all the world, and children, and people. They said He was good to all. I suppose He is the same to the bad as the good. (Does he punish any one?) Don't know about that. Have not heard of Christ: I had never done my work till so late. Yes, I think He was good, and was crucified; but I do not know why, or if He was ever alive again, or if I am a Christian, or any people are. Didn't think about it. Mother told me I should say my prayers, and my brother said I was to say it arter him in bed; but I don't know them, only the first word, "Our Father." That means God, I suppose.

[This boy has no father, but a very respectable mother, and bears a good character himself for quickness and diligence.]

81. *John Nettlefold*, age 14.—Smooth and polish. I went to a brass casting shop at 8 years old. At school till then. Go on Sunday sometimes. Know my letters, but can't read.

82. *John Judge*, age 14.—Smooth and polish. Work from 6½ a.m. till 7 p.m., the engine stopping half an hour for breakfast at 9, and an hour for dinner at 1. Am away with the headache sometimes.

At school till 11, when I went to gun filing. Go on Sundays, but never to a night school. Can read a little (very slowly), write a very little, but not count figures.

83. *Charlotte Price*, age 15.—Rough glass lamp globes on a steam lathe, by holding on a bundle of wire dipped in wet sand with each hand. Wear the apron to keep the dirt off. Don't wash; there is no place for it. That tub (Very dirty water) is for the glass. Pull the band on and off with my hand; never hurt myself with it. Work from 6½ a.m. till 7 p.m., and till 1 p.m. on Saturday. When busy, stay till 9 or 9½ p.m., but not often; only in winter; perhaps about a couple of nights together every other week, for a time. Have worked at this a year.

Cannot spell. Could not go to school often because I had to nurse the children, mother being at work here.

Mr. G. Hughes', Flint Glass Manufacturer, Tower Street.

84. *Mr. George Hughes.*—I employ only three boys, takers in, all relations of mine, and two men. The two men work with the two boys, aged 14 and 15, from 7 a.m. till 7 p.m., and I with the youngest, aged 13, from 7 p.m. till 7 a.m. In the day they stop half an hour for breakfast, an hour for dinner, half an hour for tea, and 20 minutes for an 11 o'clock; and we give just the same times, and look for just the same meals at night. We reckon it 9¾ hours work. However, these boys are too old to begin as glass-makers, and I only employ them just for the sake of it. I began myself at 7 years old, under my father, who could take the bore off me; and I should put my own child to it at 9, because I could spare him more; and he would not get "munched." It is not likely that a man's own child would be punished as much as another person's boy. But as for the work itself, the bigger they are the better, as long as they will come for the wages. They can stand the work better than the younger. When I began so young I cried to go from school to work; and when I was at work I cried to go back to school.

There is no rule as to the age at which a boy will get to be a foot-maker. Some will take it twice as quick again as others, and are as "gain" again; one will get to be a workman before another has blown a foot. Some will never get to be a workman. A lad that worked with me, though now 19, is still a taker-in at another place. I am sure, however, that there was a saucy tongue there, and know that he kept language that would not suit a big house. If a person wants to get on he must not have a saucy tongue. It is impossible for anyone to learn unless a man will let him. Boys are not apprenticed as foot-makers till the age of 14; and those who are not apprenticed begin later, some at 17. It depends, in great part, upon the parents. Some press their boys on more and get them made apprentices. I have not known many become foot-makers until they have been two years in a glass-house. A man would not let a boy touch an iron till he had been eight months as a taker-in, and had so learned the temper of the metal, because he would not have his iron messed. A man can tell in a moment whether a boy has got the gift for the trade. I could, as soon as ever I saw one take the iron.

A man could not possibly do a taker-in's work. It would kill him, stooping and being up and down so and about.

I am up now (afternoon) because I can do very well with six hours' sleep in the 24. Six is plenty for a man by either night or day, but not for boys. The young ones will "sleep till the cows come up," so to say, and never wake. A child is always sleepier than a man. If a boy lives any way off, what with going home, washing and cleaning, and being called an hour before the time, he don't get more than four hours' sleep at a time twice in the 24 hours. Most of them take this, so it leaves no time to go out or play.

As to school, not one in a hundred goes either on Friday and Saturday, or on Sunday either. They enjoy Sunday in the streets and fields just like a horse, and gallop about at their leisure. My parents were strict and sent me to school on Friday, Saturday, and Sunday, and kicked up so at my leaving.

I have worked in most of the glass-houses here and in the country, *i.e.*, Stourbridge district, as well as in some other parts, and have done different kinds of work. The work varies very much according to the article made. The larger things, such as decanters and everything about that size, are made at the "caster-hole" or "glory-hole," a furnace separate from the pot. The caster-hole work requires strongly built men, with large chests. Some of them are the strongest men that can be had. 7 lbs. weight of glass at the end of the iron is as heavy as 2 cwt. is to heave in a barrow. I can wheel 2 cwt. better than I can wrostle 7 lbs. of glass above me. The 7 lbs. takes as much power. I have seen a man work 22 lbs., but that is the most that ever I did see. Generally, when a man has such a heavy piece, he has some one to help at heaving it and others to keep the heat off his arm with boards. I have worked at both the caster-hole and the smaller work, but am not properly big enough for the former.

As to healthiness, it is like other trades. Some are weak, and some are not. Of course they will have their drink.

Glass makers and glass cutters are an entirely distinct class of men. Though working on the same premises, one never passes into the work place of the other. It would not do. They may speak perhaps in the streets if they happen to know one another.

In Ireland there are two boys to do exactly the same amount of work, and of the same kind, as is done in England by one. There were three flint-glass houses only in Ireland a little time ago; I cannot say what there are now.

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q.

Mr. T. Hateley's, Flint Glass Manufacturer, Chester Street, Dartmouth Street.

85. *Mr. Henry Hateley.*—My glass is chiefly for lamps. The best age for boys to come into a glass-house is at about 11 or 12, but if they did not come till 13 it would not hinder the work, and they would have time to learn to blow foot. I have known some come very young, as young as 7, but I think it is no advantage to the young ones to come very early, and wish it were done away with. They could learn to blow foot well if they began it at 16, and I do not know that there is any good in their beginning before that.

I have just been reading the account of the Potteries.* It is more horrible than one can think, and there must be a way found out of such a state of things. There is nothing of that kind in glass making, but there is a great want of education amongst the boys. Cutting work is worse than blowing. If it is necessary to do anything for them, it might be done, and there would be a way. A big boy could work as taker-in through the two day turns, and a man through the two night. Many years ago I knew a taker-in in a large house in London who was over 18, but there a per-centage was paid on the work done, and the men made as much as they could. I have known a man make a double week so.

In cribs, small glass-houses, in which they make common work, as small bottles, &c., where quantity is required more than goodness, and the pots are small, they work on for 12 hours, till the pots are finished. The boys in those places are about the same age as in larger houses, and are one, or two, or three in each. A few years ago there were 36 such places in London, but I think that there must be more now.

[Mr. Hateley afterwards made personal inquiries through a small glass master in London, of the kind referred to, employing three men and two boys, and added the following statement as the result.]

My friend knows of 40 cribs in London at the present time, and would think that there must be towards 50, because many have got into the business lately. Some have only one or two boys, some more ; but three is a full average. Most of the boys are little, and seem about like other glass-house boys. In some cribs they work only by day, and fill and heat by night ; in others they work day and night, 12 hours, alternately. There are, besides, a very few houses of a size between these small places and the regular large works. He knows of about half-a-dozen.

86. *Henry Whitfield*, age 13.—Taker-in nearly three years. Am just come on now, 6½ p.m., for 6 hours, and will stop half an hour for supper at about 10. Have breakfast about 8½. Begin on Monday morning and finish Thursday night or Friday morning.

Have been pale, like this, since I was at work ; it came on me here. Have the headache at it. Last summer I catched a very bad cold. I sweated awful in the glass-house, and drank a lot of cold water and went and stood outside. Was in bed a week, and away from work a fortnight. Had bad pains over my chest and neck, and couldn't swallow, and could hardly fetch my breath. Mother thought I was dead every time I began to cough. It took my breath from me, and I had to drink water. Did not spit blood or anything. Am right enough now (*catching his breath between his sentences*) ; but when I am taking in a heavy piece of glass, as one of 1½ or 3 lbs., I am out of breath still. 3 lbs. at the end of a long stick,—so long (about 7 feet) is awful. When I put it down my breath is gone all in a minute. They wanted to put me at heavier work, but I would not. (*Coughs. Is out of doors.*) Often do so, particularly if there's a deal of smoke.

Am always tired, and at the end and in the middle of a turn am awful tired. Have never worked over more than three turns in a week, or than two turns over together (*i.e.*, two turns of six hours between three of his own, making 30 hours running). Whether you work over or not just depends on whether they want you. They wanted me to work over a few days ago, but I said I was tired and couldn't.

The cut on my nose is from a piece of metal that fled at me this morning as I was cleaning the iron. Have got an awful burn on my foot ; will show you the mark. (*Shows scar.*) Was passing the "horse" when a chap hit the iron and the metal dropped and got into my boot, and I could not get it out in time, and so got burned. The other boys get burned too.

Was always at school till I came here, *i.e.* for seven years, but ain't a very good scholar.

[Very pale, breathes hard, and coughs several times. "It makes 'em pale at this job, they don't have much colour," said a man passing. As I was speaking to this boy one passing said of another, "He's going to work over."]

87. *Samuel Bayliss*, age 13.—Taker-in 4 years. (Coughs.) It don't hurt me anywhere.

Could read pretty tidy when I left school ; and now only know the letters.

[Has a loose cough.]

Messrs. Lloyd and Summerfield's, Flint Glass Manufacturers, Spring Hill.

88. This is one of the principal flint glass manufactories in Birmingham. In the cutting department large ventilators have been put up with a view of carrying off the noxious air which necessarily results from the nature of the employment.

89. *Dr. Lloyd.* We manufacture flint glass articles of all kinds. This manufacture necessarily employs boys in the glass-house at night. It is not however necessary that any boys under the age of 13 should be employed in the glass-house at all, though the general custom of the trade is to employ them at any age from 9 or 10 or upwards, as at present we do ourselves. Indeed, considering the necessity of night work and the heat of the work places, it is better that they should not be employed under the age of 13, and I think it desirable that employment in a glass-house under that age should be prohibited as improper. They must however enter the employment shortly after that age, at latest within a year or two, and when they once begin they must work for a portion of the night.

The work itself must go on continuously by night as well as by day, for two reasons, one affecting the employers, the other the employed. The heat must be maintained throughout, and consequently any interruption in the work would cause a waste of all the coal used during that period ; and moreover, there would not be time to work the metal during the four full working days, for the men can in general only work six hours at a time. The work itself, except the lowest part done by boys, is too exhausting to be continued for a whole day of 12 hours, and half a day would not be sufficient for men, as their earnings would be limited in proportion. This has led to the general system of six hours alternate work and rest, which allows of a full amount of work being done without excess of fatigue. In the preparation and heating of the metal, which usually occupies from Friday evening to the following Monday morning, men

* From the First Report of the Commission then lately published.—J.E.W.

only and but a few of them are employed. The glass working process consists of several stages, usually four, and the persons employed in these stages must all work together, which they do in chairs or sets of four. The lowest place in the chair is taken by a boy. In our glass-house there are 11 chairs, which employ in this way the only persons under 18 now engaged there, though at other times we may have some apprentices under that age doing higher work. The work of the lowest boys, called takers in, is of a very simple kind, in which the strength and skill of an adult would be wasted. It consists chiefly of carrying each article as soon as it is completed to be annealed in the lear or in the kiln according as it is light or heavy and consequently requires a shorter or a longer time for annealing. If the work is heavy, and in some cases we have pieces weighing as much as 70lbs., the apparent weight being increased by its being at the end of a long iron, and that end being too hot to handle, it is carried by a man. The smaller the articles made the more constant is the need of a boy's services. The boys also carry and clean the irons for the men, go errands, and do other odd work. This work prepares a boy for the next stage, that of being a foot-maker, and must be continued for that purpose for at least from two to three years.

Simple, however, as the boy's work is, it varies in different branches sufficiently to prevent the same boy from working in two different chairs. The employment of double sets, though practicable as far as the work is concerned, would create difficulties with the workmen.

The second stage should be, and generally is, reached by about the age of 15 or 16, and the third, that of servitor, by 21 ; in case of a promising youth by 17 or 18. The natural progress, however, of a glass-worker is largely affected, and often much delayed, by the rules of the workpeople, enforced through their trades unions, made with a view of obtaining an artificial equality of wages, and preventing their depreciation by limiting the number of skilled labourers available to the employer. This limit they assert to be beneficial to the masters, by acting as a check on over production. To some extent this is true.

I have had some experience of the difficulties in the conduct of the manufacture which arise from the operation of these trade rules, having acted for several years as Chairman to an Association of the glass masters of the Birmingham and Stourbridge districts conjointly with the masters in Scotland, Lancashire, and Yorkshire, formed about 4½ years since, to counteract the influence of the unions, and to resist a strike commenced at Stourbridge in 1858 ; and I anticipate that these rules would occasion some difficulties in the working of any legislative regulations of labour in glass-houses, even where such regulations might otherwise be practicable without injury to the trade.

I see the desirability as regards the boys themselves of prohibiting night work until they are grown up, but as regards the work, on account of the system on which it is conducted, I cannot see how such a prohibition is practicable if it extends above the age of 13, that being the highest age at which a boy can begin to fit himself for acquiring the necessary skill. So far as a mere increase of cost from employing adults at night or other times if necessary in the place of boys were concerned, this might be met, unless it were so considerable as to introduce danger of loss from the competition of foreign manufacturers. The English trade is already at a great disadvantage in respect of the cost of skilled, as well as of ordinary labour.

Though employment in a glass-house is laborious it is healthy. The air, though hot, is pure, and there is constant exercise. Men continue the employment very frequently till the age of 60 ; and in one case we have had in our glass-house at the same time members of three successive generations, one, a man of 74, who began at the age of 10, and whose father, also a glass-blower, lived to upwards of 100. The old man of 74, still with us, is of course unfit for laborious parts of the work, and is employed in the lowest occupation of a boy, but not as "taker-in." It is not possible that men past the age for heavy work, could supply the place of boys for night work, if boys could not be so employed ; for an old man would not be quick enough in his movements, nor would he submit to be ordered about or scolded as a boy is.

The glass cutting is far less healthy. It is entirely a sedentary employment. The use of a noxious material, putty, which vitiates the air, which is more confined than that of the glass-house, is necessary, and the temperature is usually high, viz., about 65°, and meals, &c., are often cooked at the stoves, and eaten in the rooms. It is impossible entirely to remove the noxious effects of putty by ventilation or other means, though they may be much lessened. We have taken great pains to secure thorough ventilation in our own glass-cutting shops. The hours of work in these, with very rare exceptions, are uniform.

We have also some persons employed in miscellaneous employments whose hours are equally regular, *e.g.*, women, in cleaning and wrapping up glass, also in roughing lamp glasses, &c., but not children or very young girls in any occupation. (*i.e.*, excepting glass-house boys.—J.E.W.)

It is probable that if the boys did not begin to work at their present early ages, and were better educated, they would come to their work with greater strength and health of body, and improved faculties of mind, and would, therefore, stand a better chance of success in life, and they would certainly be more profitable to their employers. More knowledge and intelligence would also enable them to form more independent and better opinions on all practical matters than the mass of them are able to do now, and would make them less liable to be misled by agitation in regard to their real or fancied interests. The employers and employed would thus be able to explain and understand their own natural views and interests better, and so to act more for the true benefit of all concerned.

The prohibition of the employment of children under 13 years of age seems to be most important on the ground of moral and mental training ; but it must be a general prohibition, for if confined to particular trades or occupations it will, by deterring children from these, only drive or lead them into others, in which money can be earned ; and thus the main object of the prohibition would be defeated, and the prohibited trades or occupations injured by the loss of so much inexpensive labour, and without a better order being substituted.

90. *Thomas Compson*, age 15.—Taker-in. Also gather for about four turns in the week. Father made me learn that about two years ago. May as well learn that as anything else. Most boys who work with their fathers learn gathering, and take four, three, or two turns a week at it. The fathers like to get their own boys on, but the men don't care about the boys. Two or three boys here under 10 years old gather for one turn or so in a week. Have seen many at 8 or 9 gathering, and have seen one as young as 7. He had to stand on the round-about, what you call, up against the furnace, to reach. There are generally a good many as go to learn work in glass-houses at about seven years old. Suppose they think they'll learn all about it by about 14. Some will take it as quick again as the big ones. Have a brother of 12 here in the same turn as myself.

The hours of my turn are from 7 a.m. till 1 p.m., and from 7 p.m. till 1 a.m., beginning on Monday morning and ending Friday at dinner ; but the takers-in have to come about half an hour before each turn to get the things ready. Have breakfast in the morning turn, when all the breakfasts come, for towards half an hour, but no fixed time. Dinner at

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2, after I get home. Wash me and go to bed by 2¼. Get up at 6, or 6.10, and have tea, and to work here by 6½. Have nothing to eat between then and when I knock off, at the middle of the night; but mother always leaves me some supper on the table. Get to bed directly then.

The work is very hot, and makes your shirt sweaty. In summer it's awful. Wear the same shirt all through the week, and sleep in it, but undress on going to bed at both times. Always wash me before going to bed, my hands, face, neck and arms. There is a good many as wash dirty,—what they call "the "glass-house wash," but father never let me do so, and if I did, always made me wash over again. Can always go to sleep well if I've washed. If I haven't, I always have to get up again and do it.

Am always weak, and have been since four years old, when I sprained my ancle, and the doctor orders me milk and new laid eggs. Think I am stronger now than when I came here. Can "eat all afore "me now." Have had these lumps here (in throat), but they are gone a good deal now. Generally speak like this (is hoarse). Glass-house people always do, because your throat is always dry; but your voice is better when working in the glass-house than when you are out of it. (He has come out to me, J.E.W.) When my throat is dry I can get water down the road. We drink a lot of water and make our bellies ache. When I first came used often to catch cold. When I went out did not put my jacket and waistcoat on because I was so sweaty, but carried them over my arm. Used to sweat more then, but now am more used to it, at least take more care as I go away. Generally have burns (*shows one on his hand about the size of a fourpenny bit, quite raw*), because when you clean the irons off you don't know where the pieces will fly to.

Father took me from the Bluecoat School at Dudley at 10 years old to go to a glass-house. The schooling was free, and if you behaved well they reckoned to give you three new suits of clothes, one a year. I cried so not to go to work, and father and mother said I should not go, but I went. Go to school on Sunday now, and all the nights that I am at play (not at work). Can read (scarcely). Can write a great deal better than what I can read,—can write my own name and letters too when mother spells the words for me. Often do so. Never did much summing; a few, but very little ones. Learned these most at the night school.

[Without colour.—Very pleasing manners.]

91. *Joseph Jones*, age 13.—Taker-in. Do not ever gather. Am under Mr. W., a workman, who pays the chair, but the money comes from the foreman. Get 4*s.* a week. The mark in my neck (a large unhealed sore) is where a lad burned me. Was walking with a bottle of water to master when the lad ran against me. He couldn't help it though. It was some months ago. Have burns all over me, here (hands), here (on eyelid), and here (under mouth). We very often get burns. The glass flies so. When I get home at 1 I shall have dinner, wash me, and get to bed.

Was at day school till I came here towards a year ago, and go on Sunday. Can read the letters of "Dublin," but cannot sound it. Do not know what it is. Manchester is a town. (Question. Big or little?) Little. So is Liverpool. London is a little town. Big fish go on the sea. Cannot spell "sea" from sound. Wrote little letters on a slate. "9" is "3;" is "6." 3 times 7 is 21. Learned that at school.

[Very pale and ragged.]

92. *William Alcock*, age 15.—Been in glass-houses since 9 years old. We often get burned.

Can't read; know "one or two letters," not many. "f" is "k."

93. *John Andrews*, age 12.—Taker-in in the second turn. Am just come (12½ p.m.) Will leave at 7 and have supper, and be in bed by 8½. Up again at 11½ p.m., and come straight here by 12. Come so early because I have to go and call my master, who lives about 10 minutes off. At 4 a.m. will stop 20 minutes to eat, and get home just after 7. Will then wash me and go to bed, having breakfast first, and up again at 11½ or ¼ to 12.

At Sunday school a good while, but not to night school on Friday or Saturday. Can read (fairly). Cannot write, or very little; we never used to learn any sums or writing either, only reading.

94. *Edwin Simpson.*—Foreman in the larger glass-cutting room. In the glass business altogether 40 years, 19 of them here. The employment is injurious owing to the use of putty, which flies off from the wheel or brush, especially the latter which is used as much as the wheel, and can be seen plainly by the eye, but most in the sunshine. This cannot be prevented or the air freed from it. There are generally some of my men away from ill health; two were this week; but there have not been cases of the "putty drop" of the hand here. Always recommend them to be very clean, and all have nail brushes. Glass-cutters on the average do not pass 50 years of age.

Have never seen anybody hurt in the bands. The boys are brought to the work and accustomed to them and keep safe. One boy was cut badly in the hand by one, but that was his own carelessness completely. The band had a buckle, and as he was shifting the band in the proper way, pushing it with one hand, the tongue came against his hand and tore it. He ought to have fastened the buckle down better, and then it would not have hurt him.

Have now no apprentices under 18, though there generally are a few. Would not, however think of taking one before 14, as he would not be big or strong enough for the work. Though it may not appear so, it is very tiring to the wrist and wants strength. It does not hurt the eyes. A boy of 15 waits on the men in this shop, and occasionally tries at a frame a bit. The hours are from 6 till 6, with half an hour breakfast at 8½, and an hour for dinner at 1. The boy goes home for it. Have heard this boy read, and without spelling, and believe that he goes to school three nights a week. On Saturday all leave work at 1, and have done so for 10 years. This is a great boon to all. It gives time for recreation. There has been no overtime for a long while, not in the last three or four years. Overtime does not answer. It takes it out of the men, and the master loses not only on that account, but because the men, getting paid at a higher rate for it, like to have it, and hang back in the day time, making perhaps only 8 hours actual work in the day instead of 10.

95. *Herbert Rogers*, age 12.—Help the men in one of the glass cutting shops. Have lost an eye by an accident. Was "feeding up" for one of the men at the frame and in my proper place, when a bit of glass flew off and struck my eye. Had notes to the hospital, and the doctor said that I should have a little sight left, but not much; but I afterwards ran against something and hurt the same eye again, and so have quite lost the sight.

At day school for about a year two years ago; on Sunday sometimes in the evening, but not in the morning, as I am not up soon enough. Am going to take to a night school. Can read: "king" is "kind." Cannot write or do sums. It's been a great many years since I did them.

[By the account of a foreman (as he seemed) this boy's accident also was "entirely his own fault. He was standing too close." But "feeding up" required him to stand all but touching the frame.]

Messrs. Stone, Fawdry, and Stone's Flint Glass Works, Dartmouth Street.

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96. *Mr. Benjamin Stone.*—These works were built upwards of 40 years ago for the manufacture of flint glass by the firm of Messrs. Bacchus and Sons, and I have been engaged in the works ever since, and am now senior partner in the present firm. Glass making is a very peculiar work, and requires probably more individual skill than any other general manufacture. The system on which work in flint glass-houses is conducted necessarily involves night work and a commencement of the employment at an early age, and in my opinion renders it impossible to combine a prohibition of night work of the young with the successful conduct of the business, though we are in favour of any measures for the protection of the young wherever they may be really necessary and practicable.

Our system of work in the glass-house is that which is, I believe, universal in the whole flint glass trade throughout the kingdom. The work is done by chairs or sets, consisting usually of four, occasionally of two or three more, persons, each chair working for 12 hours out of the 24, divided into two equal portions of day and night work, with an interval of six hours between. In our case the six hours begin at $6\frac{1}{2}$ a.m. and p.m. for one set, and $12\frac{1}{2}$ a.m. and p.m. for the other, beginning usually at $6\frac{1}{2}$ a.m. on Monday and ending at $6\frac{1}{2}$ a.m. on Friday.

The arrangement of hours arises naturally from the nature of the work. A certain time (in our case from Friday evening till Monday morning), is required for putting the materials into the pots and bringing them to the heat necessary to melt the material, and letting this down to the proper temperature for working, which is considerably lower. The remaining time is not more than sufficient for working out the metal, even with the nights included. Apart from this, the proper working heat when once got must be maintained, and unless the work is continued, the whole outlay caused by maintaining the heat during the cessation would be dead loss, and so heavy as to make it impossible to carry on the trade. If the heat were not maintained for the whole time, a like loss both of time and fuel would be necessary to restore it, as well as probable losses of other kinds from breakages of the pots, entailing further loss of time as well as loss of metal. A breakage of pots is occasioned generally by the fires having been neglected and the heat being attempted to be recovered hastily. The pots themselves are of considerable value, varying according to their size and the time and care expended in their preparation, which much diminish the risk of breakage. We calculate that one of ours of the largest size, holding 20 cwt., when fixed in the furnace and ready for use, is worth 10*l.* A furnace itself, from the time it is built till the time it is worn out, usually about six, sometimes seven years, is never let below the working heat day or night, unless for repairs or by accident. When worn out it is pulled down and rebuilt.

The system of chairs is formed upon the principle of a convenient and advantageous division of labour. The head, or workman, is the most skilled, and finishes work roughly prepared for him by the two next, the servitor and the foot-maker; the lowest, or taker-in being a boy who merely helps by carrying the articles when made to the lear, cleaning irons, &c., in the course of which he is gradually acquiring a familiarity with the upper stages, which is necessary to enable him to enter upon them successfully.

The work is too laborious to be continued for double the present period; and therefore men cannot work in alternate sets for whole days and nights, and have adopted the division of alternate 6 hours. Each chair does a somewhat different kind of work, and the members of it are incapable of doing any other kind, or at least satisfactorily. The man who makes a wine glass cannot make a decanter, and could not work so well with any but the persons with whom he habitually works. A youth therefore employed in the morning in one chair could not be employed in the afternoon in another chair; and if he could not work in the night set, could, in effect, only be employed for half a day; in which case he would seek other employments affording full wages, unless induced to stay by as high wages as he could get elsewhere.

Even if he did stay, his time of learning, which is already insufficient to give him the skill required, would be halved. The rules of the clubs or trade unions to which almost all glass-workers belong, do not allow of a boy being apprenticed before the age of 14. He could thus have practically only three and a half years instead of seven as he may now.

It of course sometimes happens that one or more are absent from work on account of illness or accidental causes. In such cases the remaining members of a chair are employed on such work as they are competent to do alone, which generally is of a kind more or less inferior, according as the person absent occupies a more or less important position. The absence of a taker-in is of no great importance; a taker-in from the alternate chair is put in his place, in which case the boy must of course be engaged during 18 consecutive hours, though he is not actually at work all the time; or else, as is generally the case, the others divide his work amongst themselves. The place of the other members of a chair cannot be supplied.

A scale is fixed by a general rule of the trade which measures the loss of work occasioned by one or more of the members of a chair being absent. The amount of work which should be produced in a given time by a workman and his chair is measured by "hundreds," *i.e.*, by the supposed number of hundreds of articles which he produces; though the actual number may be above or below a hundred to almost any extent according as the article is large or difficult, small or easy. According to this scale, the loss of work occasioned by the absence of a taker-in is fixed at 14 per cent., only 86 being required of the workman instead of 100, though, as the boy's work has been done by the men, they are paid for a full hundred.

Though the work of a taker-in therefore is not one requiring much trained skill, yet as it is in itself a training, it must be begun for a year or a year and a half, and sometimes as long as three years is required, before the stage of foot-maker can be entered on; and my experience is that a person will never acquire sufficient skill to fit him to be a "workman," unless he begins to be a foot-maker at 16 or at the latest at 17; and when he begins, it is indispensable, from the nature of the work, that he should work in the night set. I do not believe it possible, excepting in cases of extraordinary natural aptitude, for any person to learn the work properly, taking to it later than that age. It is true that those who do enter on it late have usually met with obstacles from the men not taking an equal interest in them, or caring to bring them on; and something of their failure may be attributed to this.

But as we find that young people are less careful, and of course less skilled, and do not, on the whole, answer so well as elder, we employ the younger in either the glass house or the cutting shops only so far as may be necessary either from the nature of the work, or the difficulty of obtaining elder; but in no case do we like to have them much under 14 or 13, though we may sometimes have a few boys younger. We employ no females in either department.

It would be better for boys under 13 not to work in glass-houses, if at all, more than through the whole of one of the day turns of six hours. It would be possible to get the 12 hours night work of the two sets of boys done by one set of adults, though it is work which they could not do any better than boys. But this would be at a considerable increase on the cost of their wages. In fact it would be men's wages for boy's work. The day work would be sufficient to

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give the boys the training required to fit them to enter the second lowest place in the chair. It would be essential, however, that there should be no other employments left open, in which boys of that age could earn a full day's wages; otherwise they would not work in a glass-house, unless for equal wages.

None but men are employed here in mixing the material, putting it in the pots, and attending to the fires. Our mixing is now done by machinery, which entirely does away with the injury to health which arises from the ordinary mode in which men beat and mix the lead in a state of powder with the other ingredients by hand. The lead, which flies off in large quantities, is inhaled, and settles in their bodies, producing serious and even fatal disease, apparently of a consumptive kind. I was induced to adopt the machinery, which I knew to be in use at one other place, at whatever cost, to prevent if possible the evils arising from our former method. But, considerable as the expense was, the work is done so much better, that the change already answers well merely as a matter of interest; and we would not return to the former mode on any account. But in addition to this, it has succeeded most effectually in preventing all injury to health. Our mixer is now quite stout, and one of the healthiest men about our works.

We consider the other parts of the glass-house work, notwithstanding the heat of the work itself and the risk which might be supposed to arise from subsequent exposure to cold air and the interference with the natural hours of sleep, to be very healthy employments. The muscular exertion and the expansion of the chest occasioned by lifting and extending the irons, which are a considerable weight, tend to develope the muscles and chest, and so to promote health. It is, I believe, a fact, that many prize-fighters have come from glass-houses. We have not known cases of colds or inflammation from chills, and I think that during the working portion of the week at least the recurrence at such short intervals of work involving free perspiration, is sufficient to throw off the beginning of such complaints, if existing. The chief evil arises from the temptation to drink. In this, as in all other respects of discipline, we have during the whole period of 20 years during which we have had the control of these works, been particularly careful, and we believe that we now have, almost without exception, a thoroughly temperate and well-conducted set of men, and that the best possible feeling exists between us. Though it is admitted that the regular night sleep is best for all, especially for growing persons, we do not think it can be said that the want of it has any serious effect upon the health of boys employed in glass-houses. With glass cutting, unless conducted with proper regard to the health of those employed, the case is different. The materials used in certain processes, as polishing and puttying, are injurious, consisting of putty, a mixture of tin and lead, calcined, and reduced to a powder, which, being light, rises beneath the face of the person employing it, and probably spreads to some extent into the surrounding air. This renders proper ventilation in shops where this is used of great importance. Other substances still more injurious could be used for the same purpose, and produce a better effect on the glass itself, but we do not think it right to avail ourselves of them.

Even as regards the moral effects of the glass-house work on boys, we consider, that by the way in which it occupies, either for work or rest, nearly the whole of the time in which the young are exposed to the greatest risk, it acts as a safeguard. The best safeguard is, of course, proper moral training and instruction; the intelligence and habits imparted by that and other instruction are likely to make persons so brought up more valuable as workmen also. When we had a larger proportion of boys than we have now, we provided them with evening school instruction in a school built for the purpose; but it is not worth keeping on for a small number.

97. *Stephen Bevan.*—Have polished and puttied for 23 years, and smoothed for 6 or 7 years before. In smoothing no putty is used, but in both of the other processes it is, and makes them the most pernicious job in the cutting branch of the trade. I should never have taken to it again had not my present place been offered to me when I was out of employment, and when I was too old to be clever at schooling in anything else. My club doctor, whom I often see, especially of late, always tells me to give up the work. Know others that have left it on account of their health. It is only at large places that it forms a separate work, but few carry it on for any great length of time, though I can name two or three cases of men who have been at it more or less many years; one an old man. This man, however, has suffered seriously, and one of the others gave up his work and became a watchman for some time, and got pretty well again.

The putty affects the nerves very much when it gets in, and makes you feel very low. It also makes you sick, "stakes" the chest up, and makes the bowels costive. When affected I take medicines, castor oil, and powder with "calomy." It also draws the hand, and my own hand (left) is drawn (*shows*), but I can use it. It came on four or five years ago, after a holiday, when I had played with a large bowl, and it has never recovered.

When I am puttying, either on the wheel or on the brush, the latter of which is much the worst, I wear a wet sponge over my mouth and nose, which I had heard from other glass men was a good thing. Before that I had used a handkerchief, but that was worse than being without it, as it is the breathing that does it; and putty will get a little even through the sponge. That board on the other side of the stone is put up to prevent the putty flying away, as it is valuable, and can be thus saved and used afterwards again. Live at a very healthy place out of the town, and think the long walk each way and fresh air must do me good. After work I always wash with soap and water, with sometimes a little soda. Washing is the grand thing.

98. *Edward William Elkins,* age 14.—Have worked here three years at smoothing, polishing, and puttying. Putty perhaps three or four hours in a day, or every other day, as may happen. Am not always well, but feel sick, and have headaches. Felt rather sick last night. Of late have had pain in my stomach, but not very bad; not to keep me away from work. Have not been away from work for some time. If I have cuts on my hands the putty gets into them and festers them.

My hours are from 7 till 7, with breakfast from 8½ to 9, dinner from 1 to 2, tea from 5 to 5½. Have my own meals down in the engine-house, but two of the boys stay and have them in the shop. Get 7*s.* a week.

Was at day school till 10 years old, at night school for a short time before last Christmas, and have gone on Sundays since I have been at work. Can read (not well), and write small copies, and sum.

99. *Henry M'Donald,* age 16. — Cut diamond borders on wine-glasses at a wheel. Have to watch very closely, and my eyes get tired towards night, but my sight is as good as ever. My eyes are not so tired by daylight as by gaslight. The gaslight is drawn down and placed close beside me. Have cut for 3½ years, beginning on cruets.

Was at day school several years till 10 years old, and seldom miss on Sunday. Father is going to get me to a night school, where I shall pay 6*d.* a week. It was father's wish, but I like it myself. Read the Bible and geography books at the day school. Paid 3*d.* a week there, but they put me in a higher class, and then I paid 6*d.*

[Intelligent, but not strong looking.]

100. *Joseph Lee,* age 12.—Taker-in. Here a month. Come to work directly I have had dinner, which I have at 12; leave at 6½ p.m.; get to bed by about 8; am called at 10 for my supper, and then sit on the

sofa or anywhere till 12 p.m., when I come to work again, and stay till 6½ a.m.; then go home and get to bed directly; mother calls me at 10 for my breakfast, and then I go to bed again till 12, when I get up and have dinner. Cannot have breakfast as soon as I get home in the morning because mother is not up to get it for me. Can get to sleep always when I get to bed because I am tired. It sends you to sleep. Never fall asleep at my work here.

At day school for about two years altogether at different times, and go regularly on Sundays. Can read. (Reads "how" as "so.") Know all my letters.

[Another boy had been at some small flint glass works, where small glass bottles were blown in moulds, and had the same hours there; there were only two boys in each turn. As I came away the machinery stopped and tea was being taken in the cutting shop.]

S. Robertson's, Flint Glass Maker, Brice Yard, Broad Street.

101. This place stands in a back yard, and is one of the few, probably not more than half a dozen, places in Birmingham called "cribs," a name given to small glass works in which a master himself works with one or a few small pots, and a proportionately small number of hands; in this case three men and two boys, takers-in. In places of this kind the metal is prepared in small quantities, and is inferior in quality to that generally made in other and larger flint-glass works, and there is a difference in the system of work, said to be owing to these causes: *i. e.*, the work is done in relays of 12 hours instead of six. The division of labour into periods of six hours, which forms the rule of the larger flint-glass houses, is said by manufacturers, for reasons detailed in their statements, to cause an insuperable objection to dispensing with night-work by boys or youths.

102. *Samuel Robertson.*—Make small common glass, such as cruets, &c. We work from 7 till 7, days one fortnight and nights the next, one boy in each turn. I always work days. Reckon half an hour to breakfast, an hour to dinner, and half an hour to tea; but we are not just regular. They stop about the same times at night, having an hour for supper at about 10. Know of five small places like mine in the town. They work by 12 hours in the same way; but most change the day and night work weekly. We begin Monday morning, or perhaps run till towards dinner time, and leave off about mid-day Saturday; sometimes an hour or two over. We keep filling as we go on, perhaps once or twice a day, according as the work is light or heavy, and uses up the metal quickly or not. Each time we fill it is not ready to work for 10 minutes or a quarter of an hour, sometimes more. The fire is never let out unless to put in a new pot when one breaks; but when not being used it is raked out and not kept so hot.

[The taker-in, a boy of 14, could scarcely spell.]

Messrs. Gammon and Co.'s, Flint Glass Manufacturers, Brook Street.

103. *Mr. William Robinson*, a partner.—Our system of work in the glass-house is that which is general, or, as I believe, almost universal in this trade. There is, however, a short stoppage for food, and the work is not carried rigidly up to the full end of the period. There are, I believe, some exceptions to this system in small places where light articles are made, in which work is carried on only during the day; but these are so small and few as to be scarcely worth notice. In all other places the work must be carried on continuously, and would be too exhausting for the same persons to continue it for the length of an ordinary day's work. This no doubt is the origin of the existing division in periods of six hours. The lowest place in each chair must be filled by a boy, the work giving no scope for the strength of a man, whose wages, nevertheless, must be much higher. Even if men could be got to take such work it would be only the awkward or untrustworthy who are unable to obtain men's usual employments. If boys could be employed in the day only, the necessity of paying men in their place for the night would be equivalent to the imposition of a duty on the work done during that period. To make up for this by raising the price would injure the trade, especially as against foreign competition. Some foreign glass is already brought and sold here cheaper than the English is made.

It is perfectly legitimate to protect the young by limiting the total number of hours which they may work, but such a limitation ought to be entirely without reference to the period in which these hours may fall. For young children a half day's work with a certain amount of time spent in education, may be as much as they are fit for. A measure fixing a limit of age below which children should not work, and compelling the parents to educate up to that time, would be good. It is desirable that all should receive the groundwork of education. It would make them more valuable afterwards as workers. We should not care if the limit were fixed as high as 12, but that might not suit works of other kinds. The age of boys employed as takers-in makes no difference to us in point of cost. All receive the same sum, whatever their age, until advanced to the next stage of foot-maker, after which their pay rises gradually.

Boys must be employed about the work for some time before they are apprenticed, as it enables them to acquire a knowledge, it cannot be explained just how, which turns to account as soon as they begin regular work. For instance, by handling the irons they have learned their weight, and they learn also by seeing the men as well as taking a man's place occasionally if he happens to be away, or in odd scraps of time.

The glass-work system requires that after a boy has once begun to work he should work the full periods of adults. A general rule prohibiting night-work of the young, though perhaps applicable enough to other cases, would be unreasonable as regards us, and I do not conceive it practicable.

The glass-house employment is more healthy than the glass-cutting. In the latter an ordinary day's work, from 6 a.m. till 6½ p.m., is all that is required.

[The other partner concurred generally in these views, but saw "that there was a good deal to be considered on both sides."]

104. *Edward Shawe*, manager of the glass-house.—Generally take boys at about 10 years of age as takers-in. They move up to higher work at different ages, according to the opportunities of vacancies, and their natural quickness and attention. Became a foot-maker myself at 14; but where one begins as early as that a dozen do not. In the trade generally the age for reaching that stage may be taken as about 16 or 17. Some, either from awkwardness, or from not exerting themselves, never get past being foot-makers all their lives.

The boys drop asleep at their work sometimes at night; but it is their own fault from not taking their natural rest in the day. Have seen men nodding too sometimes. The fire naturally draws you asleep. The boys come about half an hour before the men, to clean the tools and get ready. All are paid by the

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firm. One or two go to school on Friday and Saturday. Have not known accidents from burns. The work is healthy. One man died of bronchitis, but that is all.

105. *James Nicklin*, age 11. — Taker-in. At work at two places before; at one as errand boy, the other at a gun place. Work here with father. Sometimes am "figuring," *i.e.*, trying to see what I can blow. Come at 12½ mid-day and leave at 7 p.m.; then wash, have my supper, and go to bed, sometimes at 9, sometimes earlier. Up again and here by 12½ midnight. Breakfast here at 5 a.m. Home at 7 to bed, and up again by 12 or before; dine and come here.

At school on Sundays for two or four years, but at no other,—have not got no time, only at the latter end of the week, and stop at home and play then. Don't know all my letters; (after long looking, however, reads one or two words without spelling, and also some figures). Can write a very little; could hardly tell what.

106. *James Child*, glass maker.—My boy, 11 years old, who has worked with me here 14 months, goes to St. Clement's school on Fridays and Saturdays. He was a good lad there before, and when he left for work they told him always to come when he could get an opportunity. It is from his own choice as well as my wish that he goes. He can read anything, and do compound division, and is improving fast; it seems to me, almost more than when he was at school all the week. He used to pay 3*d.* a week when there regularly. He left work at about ¼ to 5 this afternoon to practice in a band, and gets another boy from the next set to come earlier and take his place, and will do work for him another time if wanted. The proper time for leaving work is 7, but we reckon not to work to the outside measure. A man could not wait on us so well as a boy; we could not manage him so well. The little boys are better than the bigger; the younger the better. The standing wages for a boy is 3*s.* a week, or with overtime, which however is made without exceeding the actual hours, and is generally made, 4*s.* 8*d.*

107. *Arthur Moore*, age 16. — Smooth, polish, and putty my own work; the roughing is done before by a man. Polish for 2 or 2½ hours or so at a time about twice a week, and putty for about the same, on either the wheel or brush. Have been at the frame 3½ years. Am quite well; can always eat; never have pains in my inside. The hours are from 6 a.m. to 6½ p.m., with half an hour for breakfast at 9, and an hour for dinner at 1. Have both of these in the shop, and so does the boy there (*next witness*).

Left school at 8 years old, when mother died, and was in the streets for a long time till I went to spoon polishing. Father never told me anything about going to school; mother did. Can tell my letters, but can't read. Never tried a slate and pencil. Cannot tell what number "IX." is, or how many half-crowns there are in a sovereign, or what 9 times 5 is; 5 times 5 is 25.

[Dull and ill grown.]

108. *Samuel Roberts*, age 14.—Wait about on the men, carry water, &c. Can always eat. Could wash in the "bosh" (box) there in which the glass is put.

Was at a night school for two months, but left it off because I had to work late. Was at wire weaving, and my proper hours were from 8 to 7, but often work was wanted, and I stayed to do it till 8 or 8½ or 9. It was till 9 only on and off, about two nights at a time, and about 9 or 10 weeks in a year. There were six boys there less than myself, and a little brother of mine, going 10, has been there a year and a half, and comes away at all times now, sometimes as late as 9¼ or 9½ p.m.; he does not go to school. Was at day school myself on and off, and go sometimes on Sunday morning, not in the afternoon. Can't spell at all; can read my letters.

[Small and ill clothed.]

Stourbridge.

Mr. Joseph Webb's, Flint Glass Manufacturer, Stourbridge.

109. This is spoken of as a manufactory of the highest standing. At the time of my visit to it, being Monday, the boys were not at work. The work and work-places, however, of this and the other flint-glass works which I saw in this neighbourhood, and at Dudley, are of precisely the same kind as others already described at Birmingham.

110. *Mr. Joseph Webb.*—Boys come as takers-in at 9 or 10 years old, but it is a pity that they should come too young; 11 or 12 would do very well, and I could do without any under 13. Indeed I should prefer bigger boys. Sometimes we suffer from their being too little and incompetent for the work. It would be a very good thing, very desirable, if it could be managed, to keep boys out of glass-houses and educate them up to that age, 13, and I should be very glad if it were fixed by law. Many men do not care about their lads going to school, but it is the duty of parents to take proper care of them up to that age. They would make better boys, and this is necessary as they are placed. They come amongst a lot of rough men, and get contaminated. Glass makers are the most ignorant set in the country. Twenty-five or 30 years ago boys were put to the work as young as 6 or 7, and scarcely one in a whole lot could write his name, but there is an improvement now. I hope that any measure for the benefit of the boys will succeed. Employers might see that boys attended school.

I have had several begin as foot-makers at 18 and 17, and not unfrequently these have turned out the best men. It depends more upon talent than anything else, and also I have always found that those who have been best educated have turned out the best workers. I do not know however that as a rule boys could begin so late; and the best age for the mass to begin foot-making is about 16. My experience is that it is best not to keep them long in different stages, but to put them on as soon as they are fit, and not keep them at foot-making more than a couple of years, and get them on as quickly as possible to be workmen, if possible by 21. The trade rule is that one apprentice may be put on for three chairs.

It is most important that all glass-workers, cutters as well as makers, should have their eye educated by attending schools of design. This is everything to them. Two of the best workers that I know have had the advantage of being taught drawing in this way, and I attribute their success entirely to it. I have sent many to such a school, and am now sending five. I have always taken a great interest in schools of design, and wish that some such education were adopted as a rule in this trade, and indeed in any. Drawing is a nice accomplishment in itself. But our trade depends for its success upon such instruction, and has been made so good solely by the improvement in design and instruction in it in the last few years. People themselves have come to appreciate beautiful things, and now nothing can be made good enough for them.

I have 12 boys takers-in, and four stickers-up for presswork, and have had double the number of the latter. The amount of work of each is the same. The work is not unhealthy, except for colds.

111. *Edward Compson*, workman. — Have been in a glass-house 32 years. Boys kept out of a glass-house till 13 would learn quite as soon as they do now; might learn as much in two years as they do now in five or six. If they could not learn enough as takers-in in two years they could not in longer. They

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must learn the work however by being takers-in before they begin to blow foot, and they should do this at about 16, not later than 17. There have been a good many made good workmen who have begun late, but I have seen some both ways, *i.e.*, beginning early and late. If a boy is a good scholar he will take it a good deal sooner.

[A boy of 16 here had been a taker in since 8 years old.]

Messrs. Richardson and Smith's, Flint Glass Manufacturers, Stourbridge.

Mr. J.E.White. q.

112. On the day of my visit, a Monday, no work was going on.

113. *Mr. Wm. Richardson.*—Our glass makers usually begin on Monday morning at 6 and go on in alternate turns of six hours till Thursday evening, sometimes till Friday, or sometimes they begin and end a day later. The glass-houses in the neighbourhood average about the same. In good trade houses would probably go from Monday till Friday. Sometimes pots break and hinder the work. We have only one boy in the cutting-shop. Females frost the glass.

Boys must work with the men in a glass-house, but I have no hesitation in saying that the work would be better done if it were done only in the day; and it could be if all manufacturers were to adopt the plan. The master too could superintend it himself. The men could work through the 12 hours of the day; other men do what is equal to it. There are a few kinds of work in which they could not. There would, however, be the cost of keeping up the heat at night; and it is a question whether the men might not suffer in health, and especially in their eyesight, from the longer continuance of work without rest. Indeed in hot weather they probably could not work through 12 hours, they scarcely can through six. On the whole I cannot see on which side the advantage would lie.

Messrs. Walker and Son's, Flint Glass Manufacturers, Stourbridge.

114. *Mr. Philip Walker*, a son.—We have eight takers-in, all between the ages of about 11 and 15. Eleven is the youngest age at which they come. Boys over 13 would do as well. We usually take boys as apprentices for foot-blowing at about 14 or 15. They could begin to learn this as late as 16 or 17, but it is better to take them when we do. In the cutting shop we have four cutters under 18, but no boys as errand boys or attendants. In the glass-house work begins on Monday night or Tuesday morning at about 6. Sometimes it begins on Monday morning, and goes on till Friday night or Saturday morning. At others it begins on Tuesday morning, and goes on till Saturday morning or night. The boys get meals as they can, and have perhaps a quarter of an hour or 20 minutes in the six hours. Boys work over sometimes to take the place of others who are away in the other turn, or if another or two are wanted for the press-work. The glass-cutters' hours are from 6 till 6, and in winter from 7 till 7, and till 1 on Saturday, with half an hour for breakfast and an hour for dinner.

115. *Thomas Russell*, age 14.—Taker-in. Was at school till lately. Can read, but not write very well. (Reads "distress.") Means, "When you got nothing "to eat." (Reads "Holy Spirit.") That means "Jesus."

[Another boy, age 15, was at school till 13, and can read and write.]

116. In a glass-house in some other works which I visited in Stourbridge, as in some other glass-houses, boys seemed exposed to greater heat than need be, owing to the arrangement of furnaces. Where, as in this case, kilns or lears are placed just opposite a furnace—only a few feet off, a boy is "between two fires" a greater part of his time, facing one, and with his back to the other. Great heat from behind seems less desirable than in front. My thermometer rose quickly at the kiln, where the boy places the glass to anneal, to the top, 150°.

Mr. Renaud's Flint Glass Works, Dudley.

Dudley.

117. *Mr. William Davis*, foreman and manager of the glass-house.—This is the only glass-house now in this neighbourhood. There were either three or four some time ago, but the others are now closed. I have been here 14 years.

If I had my own choice I would sooner not have any boys under 13. If they had been educated up to that time they would take to their work better; but I do not see how the work could go on without boys under 18 working at night. It would be too hard and hot work for a boy even over 13 to take in for two successive chairs as a regular thing, so that, if prevented from working at night, he could only work half days.

Boys are not put on as foot-makers, except as apprentices. The rules of the glass makers' societies do not allow it, and the masters agree to keep to these rules. The proportion allowed since the last alteration in the rules is two apprentices to, I think, four chairs. (*But see* B., No. 156, J.E.W.) They are not often taken on much before 16, and perhaps it is not necessary to have them before that age. They wish, however, of course, to be as far on in their work as they can by when they grow up. Boys work over sometimes, when wanted for the press work, or if a boy is away.

118. *Edwin Hudson*, workman.—Went into a flint-glass house, Harris', Birmingham, (about the largest works there,—now closed) when just turned 7, not under my father. Was foot-maker by 11, servitor by 15, and workman by 22; am now 24. Did not go to sleep at my work at night, even when I was only 7; gave my mind to the work. If you went to sleep you would get knocked on the head, sometimes with the iron. Sometimes boys are knocked so and get their head cut open. They generally get knocked about. When you come to a glass-house you "come to a college." Have worked in other glass-houses at Warrington, Manchester, St. Helen's, and at a small place in Islington, London.

119. *Thomas Arnold*, age 14.—Taker-in. Was "gathering a foot" (*i.e.*, glass to make to a foot) just now. Often do so. Have worked three turns together. Sometimes could not keep awake. Catch colds.

Was at day school till I came here; *i.e.*, till about 11. Cannot read.

120. *John Wootton*, age 13.—Taker-in. Live with father and mother, but I call myself at night. Always wake very often. Sometimes might come down about 10½ p.m. Should go to bed again then till it was time to get up; *i.e.*, an hour or two more. Can get down here in 20 minutes. Mother calls me in the day. Sometimes get some play when I get up, if it is before it is time to come to work. Get 4*s.* 8*d.* a week here.

Don't get beaten much, but sometimes a box on the ear when I spoil the work. Sometimes the glass cracks on the fork as I carry it, if I have let it wait too long. Have been bad two or three times since I have been here, not many weeks, with belly-ache and head-ache, and am rheumatic in the knee.

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Don't know "A ;" was never at school except on Sundays, and not 20 times there.

[Ragged.]

121. *Daniel Hawkshaw*, age 14. — Taker-in Usually leave off on Saturday mornings, sometimes on Friday. Work over sometimes ; not more than a turn at a time.

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122. The regular flint-glass manufacture is very limited in London, there being only two works generally spoken of as manufactories of importance, viz., those of the works of Messrs. James Powell and Sons of Whitefriars and of Messrs. Pellatt and Co. of Lambeth. These are conducted on the same system as those at Birmingham and Stourbridge. Flint-glass cutting, however, in London is a trade often carried on at the homes of the workers, on small wheels worked by treadle, or in small separate premises where power can be hired.

123. The works of the Messrs. Powell also include the manufacture of stained and painted or ornamented glass for windows, including the making up of glass into windows, called glazing. A few females of a superior class are employed in painting. Glass is also worked up into ornamental designs in mosaic and other ways.

124. There are, however, in London a great number of small works in which flint-glass of the inferior or commoner kinds, and cheap miscellaneous goods, such as cruets, inkstands, medical, perfumery, and other small bottles, bird-glasses, and many other kinds of small articles, are made. Some of these places employ only two or three men and a boy or two; many, not more than half a dozen men and three or four boys, which is represented as about an average size; some double this number or even more; while some approach to the character of a manufactory. The number of these small works according to the estimates given to me by a number of independent persons acquainted with the trade, including the secretary of the London flint-glass blowers, is little, if at all less than 50, possibly more, and the number is represented as increasing. From one source alone I was furnished with the addresses of 27, and at some of these learned of others not included in the list.

125. Most of these are in the poorer parts of London, *e.g.* the Borough, Lambeth, Whitechapel, Shoreditch, and other parts; I visited a number of them. Some of the smaller, in their character and that of the workers and in the situation in which they are found, much resemble the lucifer match manufactories of the poorest class. Very little capital can be required. Material is obtained by melting down old broken glass. The furnaces are very small. One, where "Jews' work" is done, which was explained to mean that it was of the cheapest kind, and such as only the poorest people would use, and very poorly paid, consisted merely of one side of a shed, the other part of which is used for another business, not separated by a partition. The skylight was out and part of the roof off. Work goes on in it only at times, *i.e.* when there is work to do, and employs at the most four men and two boys. Others were up alleys or stable yards, one in what I was informed is a noted thieves' quarter. Certainly the appearance of the neighbourhood and of the people sitting about at their doors, apparently with nothing to do, was wretched enough.

126. The system of work at these small places is not that above described as usual in regular flint-glass manufactories, but the hands work for periods of 12 hours instead of 6 for five or six days in the week, in most cases by day and night relays, changing each week, as in iron works, or less frequently; in some, by day only. The chief cause of this difference of system is said to be the smaller size of the pots, and the inferior nature of the work, which does not require equal attention to the quality of the metal.

127. The views of one of the firm of Messrs. James Powell and Sons, who is a magistrate for the county of Essex, and with whom I had more than one conversation on the subject, as well as visiting his works, are sufficiently expressed in the following letters written to me a considerable time before :—

128. White Friars Glass Works,
Temple Street, Fleet Street,
London, 7th August 1863,
E.C.

My dear Sir,

Our manager has been away, and there has been a delay in getting the list of names and ages, and I am glad to find that our rule (for many years) of having no boys under 13 has been kept to, though I believe the men working here get *their* boys in as soon as they can. The rest on the Friday, Saturday, and Sunday, I think quite makes up for the *broken* nights. We could not do without the work at night, as we only charge our pots once a week, and the glass must not be disturbed, or the steady heat of the furnace interfered with, while the glass is melting (from Friday till Monday morning), and then the glass must be worked out ; and if we did not work at night there would be the heat of the furnace and ovens wasting ; and only a certain *number* can work at the furnace at a time.

I shall be very happy to answer any questions you may require, and if you will call here, when in London, I should like to show you over this place.

Yours very truly,
Nath. Powell.

J. Edward White, Esq.

129. Whitefriars, E.C.,
London, 15th September 1863.

My dear Sir,

We have found no injurious effect to the boys from working at night. Those men we have who have worked up from boys are healthy and strong. It is not only the wages, though to charge on each article made the pay of three men and a boy is a hindrance to cheap production, but the boys act very much like fags. They do the cooking, run for beer, clean the tools, &c. ; and I have no doubt the discipline is of benefit to them in after life, for as they work up they must work *under* the gaffer or head man, and obey directly the slightest sign to give him help when he requires it, or the article is spoilt. The second man is called the servitor. I cannot fancy that lads of 16 would do the odd jobs necessary, and it would end in quarrels and confusion ; also, in making some things, two boys would be employed in taking in, to get the things *quick* into the lears.

I think I said before that the rest on Saturday and Sunday, and frequently Friday, and always Friday night, quite does away with the hardship of working every *six hours* on and off.

Yours very truly,
Nath. Powell.

J. E. White, Esq.

Mr. Jackson's, Flint Glass Manufacturer, Lant Street.

130. *Henry Benham*, flint-glass blower.—I began the trade at 8 years old in one of the leading London flint glass manufactories (Pellatt's), and have worked in, I should say, a dozen of the small flint-glass works in London, and am acquainted with men who work in a great number more. I know of about 26 such small

works, such as used to be called cribs. Some are on about the same scale as this place, viz., three men and two boys, but most are larger, having as many, say, as from eight to ten men and boys. Boys begin usually, I should say, at about 10 years old, some as young as 8, but I do not remember seeing any younger. In small places like this the pots hold on the average about 1 cwt. 3 qrs. ; there are three of them here. In large works the pots usually hold from 18 cwt. to a ton each, and where I was, each of the two furnaces had 10 pots, besides two or three smaller pots for coloured glass. The number of small work places is increasing, I think, because any man who has a little money to himself and knows how to blow glass likes to set up for himself.

In all the small works the practice is to work in turns of 12 hours for five or six days and nights, beginning at 7 a.m. on Monday, and taking about half an hour for breakfast and an hour for dinner. Those who work in the night one week work in the day turn the next, because we all take our night's rest. There must always be some one to stoke or mind the furnace every day and night in the week. In the small places it is often a lad that does this, but in the big, men do it. The large works, of which there are only two now in London, work four days and nights by turns of six hours. I have worked the six hour turns in large works, but I like the 12 hour turns best. You want eight hours sleep at this work, but with the six hour turns, what with getting home and washing, and having a meal and getting up to come to work again, you cannot get nearly six hours sleep at a time. I believe that there is not a class of men who work harder than glass makers, what with the heat and their hours of work. You cannot tell when you have done. I have got this crucible now to work out to-day (Saturday). It may take me till 7 or 8 to-night, or it may be till 11 p.m. The boy, who is about 14 (No. 131), will have to stop with me. A young man who came on here yesterday morning at 9 did not leave till 10 this morning, and working hard. Many a time, even while I was a boy, I have been on 48 hours at a time in these small places, till I could hardly hold my eyes open, and I have been that way so as I could not sleep because I was overtired. I was forced to do it, and very often worked a turn over, it might be two or three times in a week, or might not be more than once in a month. I have worked 48 hours together too as a young man of about 21, and thought nothing of it, but I have not done it since, *i.e.* about 15 years, and wouldn't. I find 12 or 14 hours quite as much as I care about now.

The work is unhealthy from the sulphur which comes from the furnace. There is always black filth and stuff comes off your stomach if you cough in the morning. That is the only thing unhealthy in it except the blowing, which affects the chest. I find it in my breathing, and any one must who is not strong. But some don't find it. I often cough, but I do not lay it to the work, but to my being a little consumptive and asthmatical. Though I am slight I was always strong and healthy unless I brought anything on myself by not taking care of myself, as in drinking. If you have been drinking and stand over the furnace it will get into your head. If, however, glass makers are not strong they go off young from decline ; plenty do.

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The work is not heavy, only fatiguing, and at times very hot. Bless you ! if any one came in here in summer they would see the drops coming off like great peas. The big glass houses are much cooler than these small places, being much higher and having more draughts. In these small places we are nearer the furnace, and have not so much room to work in. Our work is on the same sort of footing as the gas factory stokers, only theirs is heavier work. I never yet saw a glass-maker carry any flesh, *i.e.*, real solid flesh. Some are very fat, but that is only from being bloated and puffed out, partly perhaps from the beer which they drink. It is not healthy fat.

Many of the glass makers do not get much teaching. I did not. At Pellatt's works there is a school, or was a year or two ago. I have seen men who could not read their own labels. They showed me a book, but I could not make out what was in it.

131. *Edwin May*, age 14.—Began this work when between 10 and 11 years old, and have worked at four small places like this. Am taker-in; do other work to help the man. My work hours for the five days of glass making are (*as above*). Besides this, I have to mind the furnace. One week I work all the six days, and the other week seven nights. Come on at 7 on Sunday night, and so every night through the week, and finish at 7 on the following Sunday morning. Do not go to bed then but keep up for the day, as I go to bed that Sunday night and do not begin again till Monday morning. Do not ever work on the day of Sunday ; this chap (a man) does that. Get 8*s.* for the six days, and 9*s.* 4*d.* for the seven nights. When I am on the nights I have no real sleeping time, but can lie down and dose a little, and then wake up and see to the furnace. Can trust to waking ; the noise of things going by would waken me. Have worked 36 hours together, *i.e.*, one turn over, but never more at any one time. May do it twice in one week perhaps, and sometimes perhaps be a few weeks without working over. Had the same hours of work as here at the other places where I have been.

It is warm when we are working, and makes me sweat, not so as to make me wet, but only just muckified. Have to stand up close to the furnace to gather metal for the man, but only just for a little while each time. Like the work best in winter. Do not feel chilly when I go out if I am wrapped up warm. Wash when I get home.

Did not go to school much ; wanted to come to work. Have been since, on Sunday now and then, and a few nights, but not lately. Left it off I think because I got lazy about it. Can read, and write my name. (Can read only one or two monosyllables out of a number.)

[Intelligent and tidy, but has a glass-house boy's complexion.]

J. Crook's, Flint Glass Manufacturer, George Yard, Whitechapel.

132. *Mr. Frederick Porter*, manager.—We make small medical and perfumery bottles of flint glass. Men are required to make a certain number in the day, according to the size of the bottle. The highest number, which is with the smallest bottles, is 12 gross but we expect 15 gross at least, and they could make 18. Usually three men and two boys work by day, and the same number by night, in the usual 12 hour turns. The youngest boy is about 11, and gets, say, from 4*s.* to 5*s.* a week.

133. *Joseph Lock*, age 14.—Knock off and stick up bottles. Hours (*as above*). Have worked over only two or three times since I have been here, *i.e.* a year. Get 6*s.* a week ; give aunt 4*s.* 6*d.* and have the rest for my clothes. Worked at another place (Bibby's, then in Moor Street) about this size before, and had the same hours. The day set began at 7 a.m. on Monday, and finished at 1 p.m. on Saturday, but the night set always worked Saturday night till 7 a.m. on Sunday, men and boys. Strangers would often come on to work on Sunday night, but the same boys would have to go on with them. Every other Sunday then I minded the fires from 7 a.m. till 7 p.m., and another boy did it the other Sunday. Got 1*s.* for it and all my grub, breakfast, dinner, and tea. Two or three times worked Sundays together.

I once worked there five days (turns) running, all but six hours. It was from 7 on Saturday morning till 7 on Monday evening. On Sunday was helping the men put the feet on doctors' glasses, and taking into the lear. Didn't like it at all. Was so tired I could scarcely stand up. Went off at 1 p.m. on

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Sunday, but did not go to bed, as I should be going to bed at night. Played about, and was just getting to bed at 7 in the evening when they sent for me, because the other boy had run home and would not work. He was twice as big as me. I should not have got up but for the man coming to fetch me. Was about 12 then.

At that place I always worked in the day turn, and so another boy had always to work in the night turn. It was because I worked with master, and master always worked in the day turn. I worked better than the other boy. Sometimes worked half of the night turn too and another boy the other half, if one was away, and sometimes had to work in the night turn without another boy being away, if the work was of a kind that wanted it. At another place there were only three men and two boys, and we only worked in the day. At taking-in my feet have ached frightful sometimes, and been sore, but not blistered. Have seen boys hit with the iron or the hand because they did not do their work properly; hit just to feel, not hurt or knocked down.

Was never at school except two or three times. May have been in chapel sometimes. Know my A B C. Can't go on. B comes next I think, not D. Have not heard of the Queen, and can't tell anything about her. The Prince of Wales is a soldier, I think.

[A clever, self-possessed boy.]

Mr. Thomas Pope's, Flint Glass Blower, Nichol Street, Shoreditch.

134. *Mr. Thos. Pope.*—On the average I employ six men and four boys, but we have not always work going. I have more hands to work in the day than in the night turn, because it is more healthy for the men; the hands change turns every week or two. We leave off at 2 p.m. on Saturday. If I knew that a boy would be away, say to-night, I should try to make his place up by letting one go at noon and come back in the evening and work till midnight only, and then have another, so as not to destroy a boy's rest altogether. At some places they work anyhow, and take no care of a boy's health. There are, I should say, 50 flint-glass places of this kind in London.

All the men seem to prefer the 12 hours turn to the six hours, which is the rule in the large works where many of them have worked. I worked the six hours many years in Pellatt's works, and thought that I should find the 12 hours much harder, but on the contrary, it is much better, and I think that I shall live several years longer for it. The reason is that with six hours, with perhaps half an hour for getting home, and the same back again, with meals, dressing and undressing so many times, &c., you don't get four hours' sleep.

The work in large places is much harder for boys. I was a boy myself in one. Owing to the kind of work done there, there are so many more things for boys to do, seven different things, say, in a simple kind of wineglass. Then the distance which he has to carry the things in taking-in is so much greater. We used to count sometimes how many miles a boy had to walk in the turn. In some kinds of work, such as making common (flint glass) bottles, it was I think as much as 16 miles in the six hours. A boy would have sometimes to take in 800 things all across a large glass house, *i.e.*, a good many yards, and the same distance back. In one place they had at times to take them out into another house, which was further still. It is not walking then, it is running, and I know it too. At times, especially in summer, when the heat is greater and the stones in the floor get hot, the boys feet are very bad, and they are obliged to what they call "lose a turn," *i.e.*, be off work. With the stones being so hot and the perspiration in their socks and shoes, especially if their shoes are old or thin, they get blisters on the bottom of their feet and between the toes. But a great deal depends on how they are looked after, and whether they have a good mother who keeps them clean and gives them good shoes. Good food too makes a great difference. Some boys have no victuals, and some are half as strong again as others. Some improvements, however, have been made in having kilns nearer and carrying off two things at a time, or several in a tray, but best work must be taken in at once.

Besides doing so many little things, a boy has to keep count by scoring the number made, and if he misses any he gets something for it. Altogether in a big place there is so much to do, and boys are kept so close to it, that six hours' work there is more work than 18 hours or two days almost in a small place like this. It is not work for a boy so much as for a man, or at any rate there should be two boys instead of one. Men could do it, and I have known some almost men, or 18 or 16 years old, do it, but men would not like it. They would not get a living at it, and it leads to nothing. Besides when boys get big they want to be learning the trade.

The chief thing for health in glass work is to keep the place quite clean, and have no dust or sulphur about. Of course the work is hot at times, and in summer I have known men turn faint and obliged to knock off. I fainted myself once. My place is large for the number in it, but if it was as large again I should like it better for health. But there would be more rent than I could afford in the town, and if it were out in the fields I could not get the things. If I took an old shackly place there would be draughts, and the men would get the rheumatics. Since I have been in the trade I have known a hundred glass blowers die; I am now about 41. When a man's health fails he gets weak, and I have known several have the dropsy. In some work, as in making wine glasses, or work which a man has to watch very close, the eyes fail very much, at least so far as to make him unable to do work of a good kind. But a great many who die or break down, bring it on themselves by not taking care of themselves. For instance, instead of going home to bed after work, some will lie down on the coke and all amongst the smoke, and then the draughts come in and they get the rheumatics in their bones. Then at the end of the week, instead of going out and getting a walk in country places, some sit and drink in a little public close by. After working in a factory all the week a man should go out and get fresh air, as some do. It must be much better for them. Many get great fat men and bloated. That is from drinking such a tremendous lot of beer. Beer is I think the best drink at this work. If a man is working very hard he wants something more than tea or coffee, but then he should drink beer only in moderation.

That boy there (No. 135) always has that cough. It is in his family I think; his brother has one. When a boy is like that he is best away. About 16 years ago the doctor told me that if I did not leave off the work I should not live, but I had nothing else to go to, and I am better now.

The boys are coming on to be better treated now. Masters look to it more and won't allow bad treatment. I allow no man to touch a boy here, and if one did I should tell him that I was the proper person to correct any faults in the boys, and tell him to go about his business. If you once say that, they understand. Some years ago it used to be dreadful. Men used to knock the boys about and the boys would run away. I have seen men knock boys down and hit them with the iron or tools, &c., *e.g.*, if the boys did not come up right to their work. I have some nasty cuts on the top of my head now that I got when I was little, but I did not get knocked about much because I generally worked with my own relations, and they took care of me. I began very young, perhaps about 8. The language too was awful, not at all fit for boys to hear. Some could hardly open their mouth without swearing. It was not London men so much as those who came up from the country

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lass making towns, who ill-used the boys and used he worst language. They were so uncouth. Speakng generally the men are better now, and encourage he boys more, giving them halfpence instead of ll-using them.

135. *Charles Raynes*, age 12.—Taker in. Have ad this cough a long while. It hurts me in my chest. Have been at work in a glass house 3½ years.

136. *Martin Robinson*, age 15.—Stoke the furnace nd take in. Work a fortnight of days and a week of ights, all the days except Sunday and all the nights xcept Sunday night. When I go home from work at 6 on Sunday morning I sleep till dinner time. Before I came here, eight months ago, I had worked at home at making throw-down crackers since I was 8 years old, and usually 15 hours a day, viz., from 7 a.m. till 10 or 11 p.m., generally after 10. There were, however, no regular hours fixed. Father kept about 20 girls, from the ages of 16 or 18 to 20, and a couple of boys besides me at it. Since he died my brother has carried on the work in the same way.

Could read a little once, but can't read at all now. Used to go to night-school sometimes when we were not busy.

137. This boy (No. 136) was pleasing mannered, and by his master's account "the best boy about the place. If he does well, I shall try and do something for him." In speaking of his father, who ied six years ago, his eyes filled with tears, and when I had occasion afterwards to put a question bout his father, the same happened again. I could not make out any special reason, such as unkind reatment at home. Such feelings deserve better opportunities of cultivation than have fallen to his lot.

Skidmore's, Flint Glass Manufacturer, Duke Street, Stamford Street.

138. *Charles Richardson*, age 10.—Taker in. Another boy and I always work in the day turn from 7 a.m. to 7 p.m. taking in. Two others about my size always work in the night turn. They do so because the master took them on purpose to work so. Once since I have been here,—six months,—I worked on from 7 Friday morning till 7 Saturday evening. Lay down a little on anything I could. At some other small works, but larger than these, I often worked half a turn over, sometimes three nights a week, as Monday, Wednesday, and Thursday. That would make my work each turn from 7 a.m. till the 1 a.m. following, and I should come on again at 7 a.m. Got 6*d.* for half a turn over. When I work over my legs ache. Often burn my hands in cleaning the irons. Get 4*s.* a week.

Was not at school much, only once or twice before I went to work. Cannot read. Forget all that I ever learned.

[This boy's father, I was informed, is a compositor and "first class workman, "getting 2*l.* or more a week, but a great "drunkard."]

139. *John Baldwin*, glass-blower.—Give me Scotland for education! I will be bound to say that in Scotland, out of 20 men together in any class that you go into, you will find 15 intelligent men, and in England out of the same number 18 would not know anything. In Scotland the great pride is to bring up the eldest son to college, though the father may be much poorer than an English working man. I am not Scotch, but I have worked in Scotland. Education is more neglected in England than anywhere, and in London than in any English town that I know, or even than in little country villages. I began the trade 30 years ago, and have worked in it in Manchester, Liverpool, St. Helens, York, Bristol, Plymouth, Edinburgh, Glasgow, and Greenock, and have lived a time in Exeter, where there is no glass-making. At York there is now a large flint-glass factory; the hands work the usual six hour turns in it, and they did the same at Plymouth when I was there 16 years ago, and they do so in all the large factories. In small places 12 hour turns are the rule, because the pots are small. I find that 12 hours suits me best, because you get more rest.

The distance which a taker-in has to go in a large place comes to many miles in one turn of six hours. The distance to the kiln is in some cases, I should say, near 20 yards, and the same back, and with some work 400 articles will be made in the six hours. That distance, however, is an extreme one.

I have never seen a healthier or more active set of men than glass-blowers. Some at 60 are as nimble upon their legs as many mechanics at 40. My father worked in the trade till he was 73. Of course you must not go out too long in the air so as to get chilled, and there is no denying that it is hot work in summer.

J. Hocking's, Flint Glass Blower, Allen Street, Goswell Road.

140. *Joseph Hocking.*—My son and I work here by day with two boys of about 13 to help, and a youth of about 17 blows bird glasses by night with a boy of about 14 to help him. Now and then we give them a change. I reckon that there are about 50 places of this kind in London. A few years ago I remember counting 46, and five or six have started since. The age at which boys are taken to work in them depends on how poor their parents are. I have seen some at 7 years old. In all the small places work day and night by 12 hour turns is the rule. I worked 18 years in the Whitefriars flint-glass works, where we had 6 hour turns, and my father worked there before me. I would sooner have the 12 hours because you get more rest. When you work 6 hours on and off, by the time you have gone a mile home and have a bit to eat and just a little sleep, you have to be up again. You want rest because it is fatiguing work, especially in the large places. Prices have sunk so that men now have to work so much harder than formerly to make enough money.

141. *James Basset*, age 12.—Just come. Worked at home before, helping father, who is a glass-cutter. He cuts decanters and goblets and all sorts on a wheel which he works with a treadle. I polished punties, *i.e.* smoothed off the punty marks on the bottom of squats, *i.e.*, small inkstand glasses, on a wheel which I worked in the same way. Had to hold my arms up, so. Began work at 8 or 9 in the morning and gave over at night at 9 or 8, and all manner of times; never much after 9.

Was never at school. Can read, and write my own name, but no more; only spell a few little words. Went to chapel a few times with my little sister, but don't go there or to school on Sundays now. Stay with father, who has to get the dinner ready now, because mother died.

[A taker in, aged 13, and getting 5*s.* a week, could not read.]

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142. *Emma Golden*, Cowcross.—My father-in-law is a flint and green glass-blower, but his workplace has been taken by the railway lately. As soon as he can get another shed somewhere he will carry on business again. He had about eight men and four boys. They work day and night in 12 hour turns, changing turns each week. They begin at 7 a.m. on Monday and finish late Saturday night, usually 10 or 11, sometimes into Sunday morning.

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Messrs. E. Moore and Co., Flint Glass Manufacturers, South Shields.

143. The kind of work, viz., pressed flint-glass making, is the same as that carried on at the large works of Messrs. Sowerby and Neville in Newcastle-on-Tyne (Nos. 153–155). The glass-house which I first entered was dark and filled with a strong sulphurous vapour, said to be drawn into it by the strong draught of the furnace from some other furnace or kiln in the process of heating. One of the boys spoke of the smoke as a cause of his cough.

144. Owing to the size of the furnace in the centre of one glass house, which I took the measurement of, the distance which must be walked or run by the takers-in from the place where the glass is finished &c., to the lear where it is annealed, is often very considerable. When the holes on the side of the furnace farthest from the lear are being worked at, it is about 18 yards; those on the near side are quite close. Somewhere about 10 or 11 yards would probably be a fair mean distance. The distance is doubled each time, *i.e.* in going and returning.

145. The number of pieces made by a chair in a turn of 8 hours varies with the kind of things being made and the pace of working; but with good work it should average, I was informed by the manager 900, or at any rate 800. He had, however, known as many as 1,400 small tumblers made in the time. Taking the mean distance, the lower number 800 would give the taker-in over 9 miles walking or running, and taking the extreme distance, would give over 16 miles in the 8 hours. If a large number happened to concur with a long distance, as it might, the result would of course be greatly increased; *e.g.* the exceptional number of 1,400 with the extreme distance would give the total distance of more than 28 miles. But it seems hardly possible that this could be done in the time, and the coincidence of the two extremes, if possible, would be improbable, and if it happened, extremely rare.

146. The "stickers up" have to stand close in front of a furnace holding glass to be heated afresh after being pressed. It is very hot work and they complain of it (No. 149).

147. A small building or shed in which some girls and young women were washing glass, which was put to dry on a hot steam plate, was full of steam and moisture. I was informed that this must be accidental, owing to some escape of steam, and that it was intended to build a larger and more airy washing room, which would be much more suited to the work.

148. *Mr. E. Moore.*—We make pressed flint glass. We have two glass-houses and are building a third. We employ now upwards of 200 persons; about as many out of the glass-houses as in them. Of those not in the glass-houses some are men and women who are employed in the mixing room, where the materials are mixed with shovels, and others in the pot lofts making pots. A number of big girls and women wash the glass, others wrap it up in paper, or do warehouse work. There are a number of apprentice boys in the cutting shop, and a few boys who clean the moulds in which the glass is pressed, and which soon become dull and require rubbing with rag and emery. This must be done very frequently to keep the moulds fit for use. All these hands out of the glass-houses work by day only, viz., from 6 a.m. to 6 p.m., with the usual hour and a half for meals.

In the glass-houses the work is done by relays working eight hours each. There are eight chairs in each house, and on the average six persons to a chair, *e.g.*, to take an average set, a taker-in, two stickers up, a gatherer, a presser, and a melter. The three first or lowest in the chair are all boys; the gatherer sometimes so, sometimes not, but generally as old as 16 or more; the two highest are men.

We employ some young boys because parents are reluctant to pay for their education or to spare their earnings, and we find that children, as a fact, can do the work. But we could do without any under the age of 13 or 14. It would be a very wise and merciful arrangement if manufacturers would say that they would take no children under 13; that is quite a low enough age to fix. The glass trade generally could not suffer from this.

There is no particular reason why we should work by relays of eight hours in our branch of trade, viz., the pressed flint glass, instead of six, as in the blown flint glass. It could be 12 hours equally well. But 8 is the established number. If I were to propose 12 instead, the men would merely think that I had some object for my own interest in view, so I should not do it. In one way it would be better, as the work-people would have the great satisfaction of getting a night's sleep in turns.

Work begins at 5 a.m. on Mondays, and generally stops at 9 p.m. on Tuesday or 5 a.m. on Wednesday for 16 hours; and generally also for a time between then and Saturday morning, when it finishes. The metal however is always being got ready, that in some of the pots being in the process of melting while that in others in the same furnace is being worked.

The children of English workmen generally are very much behindhand. I have no doubt that this is why employers get such wretched workmen. There ought to be some measure for general compulsory education. For a time I tried to get my people to a reading room and paid their subscription, but I am bound to say that it was a failure; most could not read enough to take any interest in it.

In my view there is a question more important than the employment of the young—I mean the employment of women in factories. It is a great pity, because it has a great effect on the health and bringing up of children.

I have often thought that in one way there is an advantage in night-work. It removes peoples more from temptation. We pay a doctor for attending the apprentices, and in fact all the young people.

Boys in a glass-house, I am sorry to say, are very badly treated. The men are brutal and have horrid tempers. They often knock the boys about, *i.e.*, kick them, cuff them too hard, and perhaps make the mouth bleed or something like that, though I do not know of any serious injuries being done. We do all we possibly can to prevent it, and once or twice I have myself got a summons taken out. Such treatment is nothing peculiar to our glass-houses, but is practised in others as well.

149. *Alexander Dickson*, age 13.—Sticker up here two years. We have to warm in at a hole, *i.e.* hold the glass on an iron to heat in a furnace. We're awful hot at times and sweating very hard. It suits a few, but a vast lot have had to leave through the heat or would like to, but two or three have been fetched up for it in the county court, so we must stay. If it is a large thing, such as a dish, we have to stay a minute and a half to warm it in. With standing before the heat so, and then drinking cold water, your head turns a kind of dizzy. If we could get a chance of it we would always be drinking pretty nigh. Many of us catch colds, but it is our own fault for not taking enough care when we're out in the night (*coughs*). Sometimes the holes gets full of smoke and makes us cough. Sometimes I am hoarse and cough through the night.

Get about six hours' sleep at a time between the turns, and can sleep well. When you come to work at 9 at night you are very sleepy, and have to sing to keep you awake, and the same in the day sometimes. It is through the heat. When we have done work and get home, we feel quite fresh, and as if we could work another turn; but it is only feel, you know.

After the regular work is finished we are forced

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come again Saturday morning from 6 till 9 or from 7 till 10 to do odd things, and are fined if we don't.

150. *William Mather*, age 13.—We work in turns of 8 hours on and 8 off. The first turn begins at 5 a.m. on Monday, and the turns change each week. We stop a turn each in the middle of the week and finish by Saturday morning at about 4 or 7 o'clock. We stop half an hour in the turn to get meat. When a lad belonging to one turn is away they get a lad from the other turn to work over in his place. I don't do it; I've enough to do to work my own turns. They just ax you "will you work over?"

151. *William Carr*, age 11, taker in.—Have only worked a turn over twice in the five months that I have been here. Get very sleepy then. The mark by my eye is from a burn from a bit of metal; have burns on my legs too.

152. *Robert Smith*, age 10, mould cleaner.—There are six of us, all boys. We rub the moulds with emery and oil. Work from 6 a.m. till 6 p.m.; sometimes make a quarter (of a day) over till 8 p.m.

[This boy and another of the six could not read. No. 152 was the youngest.]

Messrs. Sowerby and Neville's, Flint Glass Manufacturers, Newcastle-on-Tyne.

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153. *Mr. Neville.*—We are the largest manufacturers of pressed flint-glass in the kingdom. This manufacture has been very greatly developed in the last few years, and chiefly by our firm. This kind of glass differs from the blown in being made by machinery, and thus to a great degree independent of skilled labour. We employ about 450 persons. The materials are mixed by machinery, which prevents the injury to health which results where they are mixed by hand, which I believe is almost universally the case. I know of no other firm which uses machinery for this purpose.* The materials are stored and prepared in a separate part of the building, and conveyed from thence straight to the furnaces in a way which secures the workers from any noxious dust or influence.

Our glass houses are, I believe I may safely say, the best in the kingdom. It is not at all necessary for glass houses to be, as they are commonly supposed to be, and often are, hot, gloomy, and dirty work places. Ours is cool and well-ventilated, light, clean, and in every way as comfortable and healthy a workplace as can be desired. One means by which we obtain this is by having a large opening over the front of each hole, where the glass makers stand to take the metal from the pot, leading up into the cone. These make such a draught as to cause a constant supply of cool fresh air, and at the same time make the furnace draw better. Generally they are not so large in opening, from an idea that they cause a loss of some heat, but the gain from using them is on the whole much greater than the loss. We have eight furnaces, all with the best modern improvements, which tend greatly to secure regularity in founding the metal.

We have a different system of hours from that which prevails in blown flint-glass houses in this country. Our glass makers work in turns of eight hours instead of six. We were the first to introduce this plan about 12 years ago, to do away with the inconvenience of having the hands change in the middle of the night. It also saves time by diminishing the number of stoppages for changing. Work begins at 5 a.m. on Monday, one turn beginning first one week, the other the next. By the middle of the week the metal is worked out, and an interval of 16 hours occurs for filling the pots with a fresh supply and founding. The second lot is always finished by Saturday morning at 5. Thus the hands in each turn get three clear nights' sleep in the week, which is a great advantage to them.

The system of eight-hour turn answers much better than that of six hours. There is nothing in the pressed-glass manufacture which makes the arrangement more applicable to it than it would be to blown-glass making. The six-hour system prevails simply because it has always been the custom, and the men object to altering it; and on this account manufacturers generally do not care, or perhaps are not able, to alter it. Our men at first objected, but we insisted on it.

In each turn there is a stoppage for a meal. It is, however, necessary to keep the work partially going in this interval, to prevent the moulds from getting cold.

The work of boys in our glass-houses is much the same as in blown flint glass-houses. We do not like to take boys much younger than 14, though some may be brought younger by their fathers.

A number of boys, about 40 or 50, work in the cutting shop, flatting the goods. They are not apprentices, and are so irregular and uncertain that we are obliged to keep a far larger number than we should if we could only depend upon them.

A number of young women, about 40 in all, none of them under the age of 18, work at washing and cleaning the glass, and others in the warehouse. Men pack.

The hours in all the departments, except the glass-houses, are from 6 a.m. till 6 p.m.; with full meal times, and are never exceeded. If more work is needed, we simply take on more hands, which we can easily do, as our premises are very roomy.

154. *Thomas M'Graby*, age 13, taker-in.—Work in turns of 8 hours on and 8 off. Begin on Mondays at 5 a.m. one week, and 1 p.m. the next. Finish work Saturday morning or Friday night. Work stops for 16 hours on Wednesday. Stop in the middle of a turn to eat, and start again, just as soon as you get it like. If ever there's a lad bad, and can't come, I work for him too, and get his pay. Get 7*s.* or 8*s.* a week usually. Don't ever work more than three turns running; it's ower lang, that is. Am very tired when working three turns. Can't get any sleep in the 24 hours of working. Sometimes am three or four weeks without working over. There are a vast littler than me here, some about 11. I have been here two years.

Put on a comforter; it's hot work. When I've got a cold it hurts me in the chest.

Worked at another pressed flint-glass place (Gray's) before, and worked there in the same way, 8 hours on and 8 off.

Canna read or write very well; was na very lang at school. Go to chapel and school on Sundays.

[Can read a little.]

155. *James Shannon*, age 14 (?).—Don't know how old I am; yes, warrant I'm 14. Am a flatter. There are 40 or 50 boys flatters. Work from 6 a.m. till 6 p.m., or till 5 or 4, but never make any overtime.

Was at school, but didn't learn much. Don't know how many weeks there are in a year, or if London is a big town; I warrant it's a large place.

The Northumberland Co.'s Flint Glass Works, Forth Bank, Newcastle-on-Tyne.

156. *Mr. Dodd*, partner.—This is the oldest blown flint-glass establishment here, and there is none in this part of the country on a larger scale, *i.e.*, with more than one furnace. The manufacture of blown flint-glass has fallen off, and that of pressed flint glass increased so much in this district.

We have the usual blown flint-glass system of work by relays of 6 hours each, going on day and night continuously from 7 a.m. on Monday till Thursday or Friday. Our glass-cutters work daily from 6 a.m. till 6 p.m. In France and Belgium, two of the principal flint-glass countries besides England, the glass-makers work, I believe, 12 hours at a time, in day and night relays. In Bohemia, where I have been, glass is

* One firm, at least, at Birmingham does. See No. 96.—J.E.W.

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made in small places by day only; but this is possible only from pots being small. The work is good, but this is because labour is so cheap.

There are several reasons why glass making must go on day and night continuously. When the metal is ready it must be all worked out of the pots without stopping. But most of the articles made are so small, and the amount of labour so great in proportion to the quantity of metal used for each, that this cannot be done in a shorter period, as in crown, sheet, or bottle glass houses. If, in order to allow of working all the metal out in the day, only pots small in proportion were used, the metal could not be got properly fine in them. Besides, there is economy in space and arrangement of furnaces and work in having the large pots and furnaces. Also, to suit smaller pots, the present furnaces would have to be knocked down, and new ones put up. Again, if the metal were prepared in several small batches, instead of in one large one, the shade of colour might vary; and this not only where coloured glass is used, as green, amber or blue, but even in the simple white glass of which the great bulk of things are made. Of course, a whole set of several articles, wine glasses for instance, must be of just the same shade. The same kind of materials may be used in just the same proportion, and yet there may be a difference in the result, either from the raw materials varying in quality, or from some difference in the heating of the furnace, depending sometimes even on the state of the wind.

The size of the pots and furnaces in common use has no doubt come to be fixed at that which has been found to make the best work and be the most profitable. Our pots hold about 13 cwt. of metal each. I some houses I believe that they are larger.

All the metal in the pots must be worked out possible, for whatever quantity is left in, that amou of work would be lost. Sometimes, however, a qua tity is left in unworked, and fresh metal is melted u with it; but it is better to lade out the metal whi is left, and put it into water; but either way, wh ever is left is used up again. It is rather more apt be brittle from having been in the water.

Even supposing that the furnaces and pots could arranged for day work only, there would be a was from the lear, in which glass is being cooled, burni for nothing.

The greatest difficulty which we have with the me and consequently with the boys,' is occasioned the glass makers' unions, which dictate the wages a the quantity of work which men should make; a over and above their high wages, the allowance whi they demand for trifling work, such as removing setting pots, sweeping the "crown" of furnace, & If the allowance be refused, they all stop work, a consequently the works are laid in, and the boys ha to be supported by their employers.

This is not all, as the giving of drink money to t men, who as a body are very unsteady, causes so b an example to the boys, socially and morally, that th grow up with the same tastes and follow in the san footsteps as the men.

[A taker-in, aged 14, had been 5 years in glasshouse. Worked "over" sometime Could read very little.]

Messrs. W. and R. Ferry's, Flint and Green Bottle Glass Manufacturers, Hill Gate, Newcastle-on-Tyne.

157. *Mr. W. Ferry.*—We work in the way usual in blown-flint glass houses, viz., in relays of 6 hours each, though ours is quite a small house, with only two chairs. If boys could not work at night we should have to work in the day only. This could be done, and I have thought of doing it, and should do it if my sons objected to the night work. It would require only a trifling alteration. We could live so, and live well, and every manufacturer could. The only thing would be, that he could not turn out so much work, and would not make so much money. The furnaces could be kept up well enough. It is true that the cost of this would be greater where the furnaces are large. I certainly have a very great objection to night work; people who are engaged in it miss so many opportunities of improving and refining their minds. Music softens the mind very much. I regret greatly that two of my sons, by being in the glass house, have been cut off from this; though two of their brothers, otherwise brought up, are good musicians. I am very fond of it.

We seldom take boys at all under 13 or 14 years of age, even as takers-in. We don't like them; they are of no use to us. A little boy is worth nothing at all. By that age they begin to think more. It requires knack. If a boy has a mechanical turn, though he may not know a bit of a book, that's the boy for us. If a boy comes younger he is careless, and merely does the work because he is so used to it; but he does not think, and does not improve. A boy beginning at about 13 or 14 will make a better worker than one beginning at any other age, either younger or older, but of course he must be fairly set down under a good man, and well taught. But it often happens that a man will not take pains to bring on a boy properly, as he sees that then the boy may perhaps step into his place.

This jealousy of keeping out boys has been very injurious to the trade. The men, by their union and allowing so few apprentices, have now so thinned down the trade that they can demand very high wages, and are tempted to spend too much in drink. The masters, too, sometimes cannot get men. The result of this scarcity of blowers, and their independence and irregularity, has been to drive the ingenuity of the press men to make a vast of kinds of glass by th press that would otherwise have continued to be ma by the blown-glass hands.

Beginning glass-house work under about the ag which I have named is also very bad for the boy It is dreadful to think of the poor children in son cases. In the black bottle houses it is worse than the flint houses, as the hours are longer, viz., oft from 11 to 13 or 14 hours at a time. The pots a now larger than they were. Only 63 dozen used be made in a journey, but now sometimes 120 doz are made. I know a house in Scotland where th are now making double journeys every day, and si days in the week. It must be hard work that. Fro what I have seen of the work in bottle houses an other places, the American blacks in the south a not so bad as many in this country.

But in a flint house too, if it is large, the work very hard for a young boy. In one of good fair siz say with an eight-pot furnace, a boy may have to ru 30 or 40 yards each time that he takes a thing to annealed, and as soon as he comes back another ready, so that in fact he has never done running They have very little time to whistle and sing the In a flint house that I worked in a boy had to ru each time 40 yards going and coming. Sometimes is more. With some kinds of small easy work 15 pieces will be made on the average in an hour if th men work close, so that in the six hours the boy wi have to take in 800 or 900 pieces. This will come t a good many miles. (40 yards × 800 = 32,00 yards = over 18 miles, J. E. W.) In this town to I have seen them run without shoes or stocking but their feet get that horned that they do not min I knew one who for a halfpenny would put his ba feet on pieces of hot glass that had been cut off, an stamp them out flat.

I have oft observed, and I have been nearly 5 years in the business, that those glass makers wh have begun over young are weak and sickly. Youn boys must have sleep, and cannot get it properl when they have to work at night. But it is onl very few of those who work in glass houses as youn boys, who rise in the business. It is only the clevere

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and stronger. The others fall out and go to other work.

It is a most deplorable thing, but most glass makers are very ignorant. Of those that I have been amongst not 1 in 10, I should say, could write their own names. Amongst the bottle glass makers it is worse. Owing to the night work there is greater difficulty in boys getting any schooling at glass-house work than at any other. In a large flint glass firm for which I worked, I suggested to the master to have a school in the spare time at the end of the week, and he was delighted to support it. But the boys said that they were tired, and they had got into such low glass-house ways, so they would not come. I value a good education and give it to my children. I always say that I would sooner have educated men to work for me. Some think otherwise. A friend of mine, a large glass manufacturer, says that giving education is like training a man to use a two-edged sword, and not thinking that he will use it to strike some one. But I find that educated men have finer and brighter ideas about business, and are better to govern. You can persuade and convince them. If they are not educated, they always fancy from the prices at which things are sold that the master must be making a vast lot of money, never taking into account his expenses and risks, and it is of no use to try to convince them of the real facts.

The most depravity too is found amongst the uneducated. I have been struck with this in the prison returns, which give the number of those who cannot read or read imperfectly. In fact education is desirable, not only for pleasure and for the good government of the country, but it refines the taste and makes better citizens in every way.

Mr. D. Martin's, Flint Glass Manufacturer, New Chatham, Gateshead.

158. *Mr. D. Martin.*—I am the only blown flint-glass manufacturer I believe who works by turns of eight hours on and off, instead of by turns of six hours, as is usual throughout England in blown flint houses, except in very small places or cribs, in which they work 12 hours on and off. "Cribs" was the name given to such small places when smuggling was going on. The plan of working only six hours at a time came from this. In summer time a man gets very faint, as any man would tell you, working as he does in a temperature of from 80° to 100° and the sweat running off his face. In summer time 100° was the average temperature in a great number of flint glass houses, *i.e.*, in the parts where the man works. Now they try to ventilate houses more, and where this is done men could work longer at a time. By good ventilation you can get the temperature in which the man works down to, say, 75° in summer.

I wrought for a year in a large pressed flint-glass manufactory here after they changed to the eight hours plan. They did it some years ago because they thought that three changes in the 24 hours would do as well as four. I found it suit me much better, so when I started for myself I said to my men that we would try it, and if it did not answer we would change back. It does answer much the best, and the men like it decidedly best. We begin at 5 a.m. on Monday, and the turns change in alternate weeks. Thus we always get two nights in the five working days, and get a day of rest, a sabbath, and the Sunday besides. Night is the time of nature for sleep, and a man can do a deal more work and do it better working in the day. I believe that it is mere prejudice which makes people keep to the six hours plan. I was quite against the change to the eight hours turn, and refused to agree to the change. Having been so long at work in one way, one would sooner keep to it, and I had worked on the six hour plan for 40 years. It was only when we had begun it and found that it was better, and that we got more rest, that we came to like it. Putting your clothes on and off, &c. only three instead of four times is a great saving of time. We calculate that there is a loss of half an hour by each stoppage, and with six hour turns that comes to five hours a week. The boys too on my plan can get a little out in the air in the summer time.

In all the pressed flint glass houses that I know in this neighbourhood, and I know most of the works, they work by eight hour turns.

The amount of work turned out has increased several fold by the use of the press. I can calculate, knowing pretty well the number of tons turned out in a week by blown flint and by pressed flint houses. The pressed or machine-made glass is so much cheaper than the blown that a man, *i.e.*, one who makes by blowing, could not stand against the machine at all were it not that the blown glass is so much better and stronger, *e.g.*, ten pressed flint tumblers would crack in use for one blown tumbler. Some glass made in moulds is blown by an air pump, the breath not being strong enough. Much is moulded by pressure only.

Glass makers are in general healthy. I believe the reason is that if they catch a slight cold they sweat it off. The effect, if not the cause, of cold is the stoppage of perspiration. But it does not do to have the place too hot, and there should be as much ventilation as possible. I have put shafts which run up from the front of the furnace to the outer air, and I believe that there is no glass house in the kingdom better in this respect. It makes the furnace burn better and keeps the place cool. This is a great saving. If a man is working in a temperature of from 95° to 100° he is done very soon; if it is only 75° he can work eight hours. Flint glass making is not heavy work, it is the heat which exhausts. I have often tried the heat. Perhaps about 80° is the average, *i.e.*, taking it at the mean distance between my seat and the hole, which is the fair way of trying it, as you are part of the time at each. I have worked in a temperature, so tested, of above 100°. In that temperature you are very warm, but cannot sweat at that heat; the perspiration stops, and when that stops you begin to suffer. When you come to work any time at about 100° you feel quite short of breath and uneasy, with a sensation of heat, and tremendous thirst. It is sometimes up to 120°, and then the bees-wax, which you must use, begins to melt, and when that is off it is time for a man to be off.

In winter, however, it is sometimes very cold. I have been where in part of the house the thermometer was at 20° and water froze. Here sometimes in winter we work in two or three flannels. Flannel makes you a deal more comfortable, and if you get wet with sweat you don't feel it, but are warm and dry. We stop the openings up to keep the cold out, but do what you will there will be cold places in a glass house in cold weather.

A spare boy to a chair is a great advantage, though he is not constantly employed. A chair, say, paying a boy 5*s.* will gain 10*s.* by his work. The spare boys are paid by the men, the others by me. I have a small engine of 3½ or 4-horse power for cutting the glass. I have three chairs, and employ six boys.

Messrs. M'Dermott, Conolly, and Co.'s, Flint Glass Manufacturers, Pipewell Gate, Gateshead.

159. *Mr. Thomas M'Dermot.*—If I had my way I should say that 14 was quite young enough for boys to come into a glass house. I consider that under that age boys are not firm and strong enough or their constitution either for such work. It is cruel to have young boys at it. Coming at 14 they could carry on their work better. Indeed I consider that in many other trades too the case is the same. Beginning as

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late as 14 would not prevent them from turning out good mechanics. I have known many very clever mechanics who did not begin till they were 16. Probably, however, glass cutters and some other trades would not allow boys to enter older than 14. Boys are not suitable for night work; only grown people should be engaged in it, as their constitution is strong. The glass makers would be very fair men for health if they did not injure it with drink.

There is no reason why flint glass makers should not work 12 hours at a time as men do in any other trade instead of 6. It would make no difference to us. I have often told them that they work 6 hours only because they want to make the work seem harder than it is.

Ours are small works. In the cutting shop there are four boys, the youngest 11 and one 12. They work from 6 a.m. till 6 p.m. with full meal times. There are also two young women who rough glass there. Sometimes in the cutting shop we make overtime till the whistle at the railway engineering shops near, *i.e.*, about 8.30 p.m.

160. *Edward Chilton*, age 11.—Came as taker in when I was 9. Begin work at 1 p.m. on Monday and give over Friday night, sometimes Saturday morning, six hours on and off. Never took a turn over; some do when the other lads are badly. Get 5*s.*, 4*s.*, and 3*s.* 6*d.* a week.

Never was at week-day school. Cannot tell the letters.

R. Gray's, Flint Glass Manufacturer, Pipewell Gate, Gateshead.

161. *R. Gray.*—I make flint-glass and green-glass bottles. Usually we only work by day. If there is full work we work day and night by six hour shifts; or sometimes we work only by day, but begin earlier as at 3 a.m.; but the boys do not come then till 6. Two boys blow and there are five men. A girl comes to the glass house two or three days a week to pick the waste. Men could do without boys at night, that's all about it.

162. *Joseph Conmore*, age 12.—Taker in. Came at 6 this morning, will leave at 7 this evening.

Don't know the letters, Wasn't at school above a month. The master died and the fresh place was 4*d.* a week; the other was only 2*d.* That is why I left.

[I visited also some larger flint-glass works (Price's), and found them conducted in the usual way.]

Yorkshire.

Mr. S. Blunn's, Flint and Bottle Glass Manufacturer, Kilnhurst.

163. *Mr. S. Blunn.*—I have a flint glass house and a bottle house here, and another flint glass house for light work near Rotherham. In the bottle house we make five journeys a week, and reckon that in each the work leaves off in about 13 hours from the time that the hands are first called. My bottle furnace has four pots, but two of the holes are double, so that there are six holes or sets of hands. Castleford in Yorkshire is the metropolis of the pale bottle manufacture. Four pot furnaces and five journeys a week are the usual system there, just the same as with me.

In my flint houses the hands work by turns of six hours only on and off, from 7 a.m. Monday till Friday evening or Saturday morning. There is no real reason why they should work only six hours at a time. It would be much better if they worked 12; they could easily do it. The work is not nearly so laborious or severe as in a common bottle house.

In one house a boy over 18 years old is still working as a taker in at 5*s.* a week because he cannot be put on as apprentice yet. Boys come to us first from about 12 years old. The work is lighter and easier for the boys too in a flint than in a bottle house, and less boys can do it.

164. I visited the only flint-glass manufactory now in operation in Sheffield. It is on quite a small scale, but worked upon the usual system. There are, I was informed, a few other places in that town in which glass-cutters work, some cutting optical glass for lenses, &c. The York Glass Company at York carry on both flint and bottle works, the former on the usual system, the latter in the way described in No. 163 as common in Yorkshire. In Bristol a few glass-cutters hire steam-power from a factory of another kind, which I visited there, and cut glass brought from the Birmingham district.

Glasgow.

Messrs. James Couper and Son's, Flint Glass Manufacturers, Glasgow.

165. *Mr. James Couper, junr.*—Our hours and system of work in the glass house and cutting shop are the same as are usual in flint glass manufactories generally. We do not care to employ boys under 13 years of age, and it might be well that they should not work in a glass house younger; but I do not see how it is possible to restrict boys over that age from night work. Men could not be put to do the boys' work. Boys must take in before they can be put on as apprentices to foot-making, and they must learn this while they are still boys. Of course, men in their full strength could not be put to such work as taking in, and elder men would not be active enough. The work is light but requires great quickness and activity, and a man of any age could not do it properly, and would be much more in the way than a boy. Our manufacture is so peculiar and is already subject to so many difficulties and restrictions that we should be spared any more.

I should say that we never put on a boy to foot-making under the age of 14, and sometimes they are as much as 16, but I do not know if any have been older. There are so few opportunities of filling up vacancies with boys, that we seldom have a chance of putting on boys young. A boy who is in the glass house now, and will be put on as soon as there is a chance, as he is suitable for the work, is 17.

The system of apprenticeship is different in Scotland from what it is in England. Here there is no age at which the law frees an apprentice, but at whatever age he is bound, he must fulfil his full term of years though he be above 21. In our works 7 years is the usual term, but I believe that is not so in all Scotch works.

In the cutting shop in which we have a great number of boys, we have for some years made it a rule not to take any boy unless he can read and write. These are the signatures of some to their indentures (*shows*). We wish to make the same rule in the glass house, but we could not make such an absolute restriction there, because a boy who is well trained and suited to that work cannot be parted with. For the cutting shop others can be found without much difficulty. Still we tell all the glass house boys that they must learn to read and write to qualify them to be put on, and if they cannot, exact a promise that they shall attend night schools. We also try to get the boys to attend the school of design, and paid half the fees for six, but out of these only one would attend. We are very anxious to have all the boys educated, and are perfectly satisfied that they would make better tradesmen for being so.

There is one point to which it is important that public attention should be more directed than it is, and that is the amount of time given to night schools. After a full day's work boys get tired and are not fit

to go to school for a couple of hours. When they get there they are drowsy and fall asleep for a good part of their time. If they only went for an hour, and had an hour before to refresh themselves and get a little sleep if they wanted it, I am satisfied that they would attend and learn more in the hour than they can now in double. Besides if a teacher had only half the number of boys at once, say 15 instead of 30, and for a shorter time, he would be able to teach each set with greater freshness, and keep a closer watch on each.

166. *Edward O'Connor*, workman.—My son, now 17, who works here as foot-maker, went last year and goes now to the school of design. The first turn in which he is finishes at 1 p.m., and he is thus in time to go to the school for two hours on three days, on Monday, Tuesday, and Wednesday. I have arranged this for him because I have known in my own case how important a proper education is. I was as big as I am now before I was taught, and I only picked it up myself because I took a fancy to it, but it is not all who will do that.

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The age at which the youngest boys here are put on as foot-makers is usually about 15. In Scotland if a boy is bound very young as at 12 or 13 his apprenticeship ends in the stated number of years, though he is not of age.

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167. The system of work and hours in the three Edinburgh flint glass manufactories, all of which I visited, is the same as that usual in England. At the first (Ford's), four boys, whom I questioned in succession, exclusive of the boy, No. 169, could read. At another, of five that I questioned, four said that they could read and write; the fifth could read a little. At the third, the only boy that I questioned, one 12 years old, and getting, as he stated, 6*s.* or 7*s.* a week, did not know A or B, though he knew O. He had been a taker-in three years.

Edinburgh.

Mr. J. Ford's, Flint Glass Works, South Back of Canongate, Edinburgh.

168. *Mr. J. Ford.*—The six-hour turns have been the system in flint glass houses for generations, and prevail wherever English workmen are employed. I believe that the system on the continent, or in some parts of it, is different, the work there being done chiefly in the day. But the pots used there are smaller than those in this country. The fuel too may make a difference. Wood is used there. A glass house is built, say, in a forest, and when the fuel near is used up it is removed to another place. We use coal, which gives off much sulphur, and this, unless guarded against, would destroy the purity of the glass. For this reason we have to use covered pots. We begin Monday morning and finish on Friday. If the metal is not ready at the proper time for beginning on Monday, the workmen say that the firemen have been neglecting their duty, *i.e.* if they speak their mind at all. The glass making is more healthy than the cutting, or would be if the men did not exceed, *i.e.* in drink. We lately had a man over 70 years of age, blowing. I very rarely take a boy under 11 years old. They generally become foot makers at about 15. Overtime is very rare in the cutting shop. Sometimes there may be an hour. One or two of our men took an interest in having a school at the end of the week for the boys, but it is given up now. Some mode of enforcing or securing an education for the boys would be a great benefit to them.

169. *John Bullock*, age 14.—Have worked over two turns in a week, never three. Can read (imperfectly). Was at school six years, but not all the time, and did'nt keep up very regular when I did go. Used to go to Sabbath school but gave it up because I had no good clothes to go in. My wages are 4*s.*, and with the over-work I get 6*s.*, 5*s.* 6*d.*, and the like of that. Have a father; there are only three of us at home.

[Four boys coming in to begin their turn as I left, *i.e.* just before 7 p.m., said that they had all been to bed that afternoon.]

170. *David Anderson*, adult.—Gaffer or workman. We have been making an endeavour to get the boys to attend school, and to take some of their expense. Some of us took up a school on Saturday from 11 till 1 in the morning, and from 4 to 7 in the evening, and kept it on for five or six years, but for the last two or three it has dropped through. This plan could, I think, be carried out very well here and in other glass works. But I think that the employers and men between them should force the boys to attend. It would be better if all were taught, and would be a great benefit to all belonging to the trade. Boys go to the work too young; I went at 10 years old. Some who could do nothing when they came to our school, got to read a little bit for themselves from it. Out of the lot of boys here, about 18 altogether, I believe that very few can read, or if they can do that, can write. Two or three, I believe not more, go to Sabbath school.

Messrs. Pugh, Munkettrick, and Co.'s, Flint Glass Manufacturers, Potters' Alley, Dublin.

Dublin.

171. *Mr. Richard Pugh.*—Our work is of the same kind, and carried on in the same way as in flint glass manufactories in England. It begins rather later, viz., at 8 a.m. on Monday, and in a proper week ends at 8 a.m. on Friday. Sometimes only 3½ turns are made, sometimes 4½ or five. We sometimes work an "overtaker," *i.e.* fill more metal into the pot in the course of the working week. If the metal is not ready at 8, work is put off for a turn or two; the hours of the turns are never altered. The hands in the first turn stop about a quarter of an hour for breakfast at 9. I do not see why they should not take it before they come, but the men say that they cannot eat directly they get up. The other turn stops at 3 p.m. in the same way for dinner, and for tea or "baggin" at 5. Five persons work in each chair, viz., a workman or gaffer, servitor, foot maker, full boy, and taker in; but one chair has only four. Most of the takers in are from 9 or 10 to 13 or 14 years of age, and the full boys usually older. The full boy does different work, according to what is being made. For goblets he gathers the stem and foot; for wine glass he gathers the stem and blows the foot; he sticks up tumblers, and so on.

The work of the takers in is very simple. Just at first they are rather awkward, but in a fortnight, if they are sharp lads, they can do it well; if they are not sharp they would take longer. When we have occasion for extra boys, as when we make pressed work, or some are away, we take on odd boys, of whom there are a great many always hanging about looking for work; they can do it quite well enough. A boy quite fresh to it could do it when just shown once or so. Or we take a boy from the other turn to work over. Perhaps two chairs do pressed work once a week. If a man is sick or from any cause absent from his chair, a man from another chair works over in the same way, or the chair works short-handed. A taker in gets 3*s.* for his stated week of 11 moves, and 1*s.* or so for the overwork.

Work in the cutting shop is from 6 a.m. till 6 p.m., and till 2 p.m. on Saturday. The engine stops from 9 to 9.30 a.m. for breakfast, and from 2 to 3 p.m. for dinner. Sometimes a quarter of a day over is made,

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i.e. till 8 p.m.; perhaps one night a week for three months in the year. But the men do not tolerate working over much, as it makes a monopoly for those who are in employment. Only one or two of the cutters are boys. The glass cutters' Trade Society's rules only allow one boy to four men. A few boys obscure lamp glasses; these also work with the engine.

There are a few cribs in Dublin, four I believe, employing on the average, say, four men and two lads each. Cribs sometimes work by eight hour turns. They say that they should not make enough work if they changed so often as every six hours. With the exception of another small flint glass manufactory, smaller than ours, and about four cribs, and the two bottle works in Dublin, and a crib in Belfast, there is now no other glass of any kind made in Ireland. There were several glass works and a crown house in Belfast, but all are now given up.

172. *James Rowe*, age 12.—Full boy. Begin work at 8 a.m. on Monday, and work till 2 p.m., and go on so usually till Friday or Saturday. Go to bed in the afternoon and get up at about 7 p.m. Usually get here about 20 minutes before work begins. Worked the same hours at the other flint glass place in Dublin. Worked over there pretty often; whenever a chap did'nt come. Worked over here one turn last week and one the week before, only when a chap was wanted. Never work more than 18 hours at a time. Get 7*s.* a week, some weeks 8*s.*

Never did have a very good colour (*coughs*). Think I caught cold in a steamer. The cough only hurt me once, here (chest). Sweat a little at work. My eye is black from a burn. Another chap had got the iron in his hand and it hit me on the eye. The men do hit me sometimes if I am awkward, but it's for my own good. They would not go to hit any one with the iron. Cannot read, but can tell the letters. Was not kept very long to school; only two months.

[Another full boy was 17, but earned about the same wages. He could read but not write.]

173. *John Murphy*, age 9 years 9 months.—Taker in; here five months. Work with last boy (No. 172) and the same times. Am the youngest here. Get 3*s.* a week; never more, no matter how long I work. Don't know all the letters (spells a little). Was only two months at school.

174. *Daniel Murphy*, age 19.—Glass-cutter. Was apprenticed at 12. Sometimes putty four hours a day three days in a week; perhaps 12 hours in the week is about the average time for which I am puttying.

[The glass-cutters here showed the same impression as to the injurious effects of this work as I have found elsewhere. "It is "the unhealthiest part of the trade. It "affects the hands of some in England." Another smaller place works eight hour turns.]

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175. —— *Sheridan*, flint glass blower, Abbey Street, Dublin.—There are, I believe, four small glass making places like mine in Dublin. I melt up old material, such as broken bottles, and make small vials. When I have full work I employ three men and two boys. Two of the other places have now only two men and a boy at each. We work in turns of eight hours each, and make seven or eight turns each in a full week. We generally begin about midnight on Monday or 1 or 2 a.m. on Tuesday. From Tuesday morning till Saturday is as long as any small place works. But very often there is not full work; sometimes there is none. There may be no orders, a pot may break, or the furnace not heat, or the hands may be short; so work is often irregular. We sometimes work on then as long as we can, 12 or 14 or 16 hours perhaps, to make up; but man and boy could not continue that; we only do it in case of necessity, and could not work so much in summer time. We stop once in the eight hours to eat, or perhaps twice if the furnace does not go well. If pots break we are done for the week. In large works they keep pots in the pot arch ready to be put in at once in place of any that break.

Belfast.

176. *Mr. M'Cormack*, Belfast.—The flint glass manufacture has almost entirely left Belfast for about eight years now. I carried it on till lately, but have had to give it up, for the present at least. The work was carried on in just the same way as it is in England. There is a crib where old glass is used up for small whiskey bottles, &c. In this a few men and a boy of, say 13, work a day of 12 hours, not by night. I was 14 when I began work in a large house, a boy is no use younger.

Surgical glass making is a job done by a man at home, with a blow pipe, very injurious work.

Watch glasses are made by cutting out round pieces from large balls, say 15 inches in diameter. They used to be cut out with a hot poker, but this is now done by a machine. We used to blow these balls. Women grind the edges of the pieces on lathes worked by the foot. But very few are employed at it here.

Bottle Glass.

Sunderland.

BOTTLE GLASS.

Mr. J. Candlish's, Glass Bottle Manufacturer, Sunderland.

177. *Mr. James Makepeace*, manager of the glass houses.—In each of these houses there are four holes and five persons working at each, viz., the bottle-maker, the blower, the gatherer, the putter-up, and the taker-in. The two latter are always boys. Sometimes there is a spare boy also. The youngest that come are about 10 years old. If I had my choice, I would never take a boy under the age of 13 or 14, but I take younger boys, as men wish to bring them, and it is worth while to have them if it enables me to oblige steady men and keep them. A boy of 13 or 14 learns quicker than a younger boy. If he is a fairly quick boy, he will become handy at taking-in in a week, and a month is quite sufficient for him to learn to put up. But no definite time can be named within which a boy will become fit to gather. This depends entirely on his brains and skill. We had one lately who was able to gather well at once after having been a putter-up only five or six months. Another might be as many years a putter-up and yet not able to gather. We had two apprentices that could not learn gathering at all, and we were obliged to let them go in consequence.

Boys are usually put as apprentices to gathering at from 14 to 16 years of age. A boy must be a taker-in before he is a putter-up. The latter has to work so close amongst the men that he would get his brains knocked out if he did not know how to keep out of the way. In fact the men would not be bothered with one who did not. One of the packers has to start a boy at first and show him how to do his work.

There are six journeys in a week when there is work enough to do. The journey or period in which the metal is worked, is called the "in work" journey, and is on the average from 11 to 12 hours. The first begins on Monday morning at about 1 o'clock, and the others as near the same hour on following days as we can get them. But as the week goes on they

are apt to begin rather later. This is owing to accidents, or neglect, but if we could we should always begin at 1 a.m. We can always do so on Monday, because Sunday gives plenty of time to get the metal ready. On other days, as soon as ever it is ready, then the men are called. Preparing the metal which is called the "out work" journey, also takes on the average 11 or 12 hours, if things go well. But sometimes pots break, or the fires are not properly attended to, or other things happen, which cause a delay of two, three, four, or more hours, in beginning the in-work journey. Thus, this week, in one of the houses the in-work journey began on Monday at 1 a.m., on Tuesday at 2, on Wednesday owing to the breaking of pots, not till 9 or 10, on Thursday at 11, on Friday at 12 noon. The bottlemakers will not in any case work after 4 p.m. on Saturday, however much metal may be left in the pots.

Taking a long period of time, the out work journey is more often under 12 hours than not. If we keep clear of accident and neglect, 11 or 12 hours will do for it. I have known it take as much as 16 or as little as 10 even, when only the usual quantity of metal had been left in from the previous journey. Some is always left in. From four to six inches of metal in depth left in is enough to make a good bottom for the next founding. Sometimes 8 or 9 inches are left, and that makes the next out-work journey shorter.

The size of the pots and the length of the journeys are arranged so as to allow of making a complete journey, as nearly as possible, in each period of 24 hours, or six in the week if necessary. The reason for beginning at 1 a.m., or soon after as possible, is to allow a margin for accidents and delays. If work did not begin till 6 a.m., and any delays occurred, it might be impossible to make a full week. The men are entitled to be paid for the stated week of five journeys whether as much is made or not. A journey made on Saturday is reckoned as overtime. It is therefore necessary to arrange so as to allow for completing the fifth journey on Friday, and we now do finish it on Friday night. I hear old glass-makers speak of not finishing it till 10 on Saturday night. The time has been gained in different ways. Less time is now taken in the preparation of the metal. The bottle-makers have better implements. The shears (tools for shaping the neck of the bottle) are better. The open and shut moulds now in use enable them to make probably a dozen in an hour more than they could with the old open mould, with which the shoulder has to be formed by blowing. They can make now from nine to 10 dozen in an hour. Formerly they made only seven or eight dozen in the same time. From these changes, by what I hear, there is a difference of 48 hours in the five journeys.

The number required to be made by each hole in a journey is 63 dozen, but usually they make 90. Sometimes we make over 100 dozen, and we have made as many as 136 dozen in a journey when making pints. When we came here the pots would give 90 dozen in a journey, but the larger pots which we now use will give 100 dozen. If the pots were larger it would take a longer time to fill and found and also to work them out, and if they were smaller, a shorter time; and the length of both the in-work and out-work journeys would be increased or diminished accordingly.

The in-work journey may be lengthened by delays happening after it has begun, as well as delayed in its beginning by things happening before. But it is very rarely indeed that it is ever lengthened to as much as 14 hours. For instance there may be a "call back." This is when the in-work hands have been called, and when they come, find the metal not fit to work. If it is very bad the out-work hands are called back to make it fit, and hence a delay may arise of perhaps four hours. If there is a very high wind, and we are not careful and keep all the doors closed, it may make too great a heat, and the bottle-makers might have to stop work an hour or two, and sometimes to leave off altogether.

In all this part of the country the rule is to work six journeys or as near as they can get to it. The length of time taken for founding, depends upon the arrangement of a house, management, and partly also upon the situation of a house as to draught of wind, &c.

The practice in this part of the country is to have women and girls to draw the arches the same as here. In each house here there is a woman called a "tallier," and a "drawer" or girl who gets into the arch and hands out the bottles to her. As soon as they have done this, which they can do in from two to four hours, they go home. A woman and girl get 9*s.* 6*d.* a week for the four journeys, or 11*s.* 5*d.* for the six. A few hands are employed in the warehouse sorting, &c.

The men would not have any difference made in the way of carrying on the work as to hours, &c. It might be made, otherwise. The men's society is broken up, but they stand together just the same. If anything contrary to custom was wanted of them, they would say that it was not their "rights."

178. *Margaret Corn*, age 12, drawer.—Go into the arch (annealing kiln) and hand the bottles out to the young woman who fills the grates (crates) with them. It is very warm in the arch, and the heat is very bad for me; I had to be off one day this week for it. The sulphur came through from another kiln which was being heated, and it made my head that bad I couldn't stand it. A hole in the wall wanted mending, and I had to take dabby (clay?) and stop it. It is very disagreeable in summer time. I have the headache very bad then, and sometimes cannot stop at work for it, but generally feel my head bad most not in the arch but directly I come out and get home. Feel my head most on Mondays when I come fresh after Sunday. Sometimes it is too hot for me to go in and I have to wait. The kiln is usually very hot on Saturday. Am poorly with my head and sore throat, nothing else. My throat has been sore and had lumps in it for three years. Have been at this work four years. Haven't a good appetite. Went to the doctor once; he said it was all from the heat and the hard work in the kiln that I was bad and had the lumps in my throat, and that it would be best for me to stop at work in winter and leave when summer came, which I did. He said if I didn't take my meat I couldn't do my work.

The drawing only takes about four hours, and I come out several times to bring back the empty grates. Get 4*s.* 3*d.* a week. Know it is four years ago that I came here as drawer, because father died four years since, and I came to work then because of it.

[The girl who was called from the kiln in the glass house to speak to me outside shivered so miserably, the day being raw and windy, that I could not bear to keep her longer.]

179. *James Hart*, age 12.—Taker in. We are called (*i.e.*, to come to work) on Sunday nights at half-past 11 and 12 and so, and other nights later, *e.g.*, 2 and 3, &c. a.m. One Sunday night we were called at 9, because the metal was fine so soon; the men began working at about 11 that night. Have been called a few other times before 11 on Sunday night. From the time I am called till the time I leave work it is generally 13 or 14 hours. The men are at work about 12, but we have to come about half an hour or an hour, sometimes two hours before them to get things ready and call the men, and stay a quarter or half an hour after they are gone, to sweep up coals, &c.

Cannot read. Was never at school at all. Went to a chapel once. Was never in my life in a church or chapel but then. Don't know what the Bible is. Heaven is up there (*pointing*). The best of folks go there, them as is kind.

[Is hoarse. Face grimed with coal-dust].

The Glass Manufacture.

Bottle Glass.

Sunderland.

Mr. J. E. White.

q.

The Ayre's Quay Glass Bottle Co.'s Works, Sunderland.

180. *Mr. John Scott*, managing partner.—We manufacture black bottles. We have two separate places of work in the town, one consisting of four glass houses the other of two. Each house or furnace has four holes, and five persons work at each hole, viz., the finisher, blower, gatherer, putter up, and taker in. Boys come as takers in at about 11 years old; occasionally there is one as young as 9, but the youngest work as spare boys, go errands, &c. Boys do not continue putters up beyond the age of 16, often not so long. They are apprenticed to gathering sometimes at the age of 14 or 15.

We make six journeys a week when there is full work, or if there is not, five. The amount of work required to be made in a journey is 63 dozen bottles at each hole. All that is made beyond this quantity is overtime. Some time ago I took an average of the work made at all the holes, and found it about 90 dozen in each journey. One hole turns out about 10 dozen in an hour, and an hour or two is taken up at starting, and stopping for a meal, &c., so that an average journey takes about 11 hours. Sometimes a higher number, as from 100 to 110 dozen is made, and this will lengthen the journey perhaps an hour or two. One week, one hole I see made 609 dozen, but that is a very full week.

The first journey begins at 1 a.m. on Monday and gradually later by about an hour each day, as the week goes on. The preparation of the metal takes about 13 hours each time. If part of the metal is left over, unworked, from the preceding journey, it leaves a less amount to be fresh melted, and thus the time required for preparing the pots for the succeeding journey is shortened, sometimes to as little as 8 or 9 hours, according to the quantity left over.

We must begin at 1 o'clock, or as early as we can in the morning, to leave a margin for delays by accidents, &c. The men must be paid for five journeys in any case, and therefore must work five at least. We are generally able to make six journeys in the week if we wish it, but I believe that this is not the case in all houses, *e.g.*, if the coals used are not good, the metal will take longer to melt, and the work thus be delayed.

The workmen please themselves as to how long they stop for their meals. If a stoppage of a fixed amount of time for a meal were required, it would not hurt if the week's work were well forward. It would not injure the work itself, but merely be the loss of so much time, which might prevent us from getting a full week's work, especially if any accidents were to occur, such as broken pots, &c.

Very great difficulty would be caused if boys were not allowed to work at night, or if young boys under a certain age were not allowed to work here at all. If two sets of young boys were required it would not be worth a parent's while to send them at all. There would not be room in the trade to take on the larger number in the higher stages of work. It is the hope of this which induces parents to send their boys to the lower. A glass house boy, owing to the nature and hours of his work, and the number of meals which he comes in for, is more costly to keep than a boy in other kinds of work. On the established system, boys who work at all must work in part of the night. I am not prepared to say up to what age boys could be dispensed with altogether, probably not older than 11. A boy would learn enough of bottle house work in a year to be fit to be then bound apprentice to bottle making. It takes some time to learn merely how to get out of the way of danger from the glass and irons.

Whatever may be the case in other kinds of glass work, it is not the case in bottle houses, I should say, at any rate not in ours, that only a small proportion of the boys who enter the lower stages are taken on to the higher. We have few who are not. It is true that the black bottle trade has increased very greatly of late years, and this of course creates a larger demand for boys to be taken on into the trade.

The system of work is the same in all the bottle houses of this northern district, viz. on the Wear, the Tyne, the Tees, and Seaton Sluice, as in ours. With a very few exceptions all are of the same size, viz., four holes, and employ men and boys in the same proportion. Whether five or six journeys are made depends entirely upon the demand in the trade for bottles, except in some cases, in which, owing to some imperfection in working the house, there may be an inability to make more than five. There are 28 bottle houses on the Wear alone, *i.e.*, in or near Sunderland, making with those on the Tyne and Tees and at a few intermediate places near the coast, about 50 in all. Sunderland may therefore be called the great centre of the black bottle manufacture.

Near our Ayre's Quay works there is a good school, which was built and started by one of our firm. We pay for tickets there for any of our boys and girls that wish to go, and several avail themselves of these when they have opportunity, and go to school sometimes.

The National school is at Deptford not far from our works, to the re-erection and enlargement of which we have lately subscribed.

It frequently happens that a pot breaks and all or a part of the metal is lost. In these cases the boys have holiday, receiving full wages as if 63 dozen were made, and cannot, under the present regulation, afterwards be called upon to make up the time lost.

181. *Margaret Ann Cook*, age 16.—Another girl turned 15 and I draw bottles from the arches, handing them out to two women. It takes us about 3 hours a day for each of the two houses here. Come at about 6 a.m. Do no other work. Get 6*s.* a week. It is warm work, and I didn't like it at first; have done it 3 years. You'd find it hot I warrant you, but it is always cool enough for me to get into the arch. Each time a crate is filled, which is in about five minutes, a crate holding 12 dozen bottles, I come out.

[The manager, who has had an experience of 35 years in the work, stated that he had never known any persons but girls employed in the arches.]

182. *William Wallace Cook*, age 11.—Taker in. We are called always at 12 on Sunday night, and rather later other nights, perhaps 12½ Monday night, 1½ Tuesday night, and so on. Yesterday morning, Friday, we were not called till 4½, which is late for a Friday, and this morning at a quarter to 4. It's always about 12 hours that we are at work. Sometimes if the metal boils it hinders us, but I never remember being at work much over 12 hours. We come about half an hour before the men. A putter-up boy has to go and call them. Stop about a quarter of an hour or 20 minutes for breakfast, and about the same for dinner. Can read a little bit.

South Shields.

The South Shields Bottle Company's Works, South Shields.

183. *Mr. Wm. Marshall*, general manager.—We have four bottle houses here. The bottles made are of the kind technically known as green glass bottles, or commonly as black bottles. The other kinds are pale and half pale, which include the smaller kind of bottles. We make usually five journeys a week, each of about 12 or 13 hours. The founding or out-work journey takes about 11 or 12 hours. The hands are called at about 1 a.m. on Monday, and, if all goes well, about an hour later each succeeding day. The boys are always called about an hour before the men. For a few weeks we made six

journeys regularly. We did it because we were full of work. There was no difficulty in it. The houses were in such good order that I had merely to say, "go six journeys," and they did it. The hands were called every day from 12 p.m. to 2 a.m., and finished by 12 at noon. One day it was finished by 11 a.m. Even on Saturday we have finished the sixth journey by noon. So that with six journeys about half of each was night work. The cause of working so quickly was simply that the men were attending, being in good heart, and doing their best to get on. On the Wear bottle makers will not work after 4 p.m. on Saturday, but formerly working till 10 p.m. on Saturday was the rule in the trade.

The same company has six bottle houses at Seaton Sluice, under the name of the Hartley Bottle Company. I was there before I came here. They take longer, 13 or 14, sometimes 15 hours, in founding. The reason is because they use sand from the sea shore, which is stiffer. Here I have known the founding take as little as even 8 or 9 hours. This is sometimes from more metal being left over from the previous journeys, sometimes from softer sand being used, which will flux sooner. If it is too soft it cannot be worked well. There is a proper medium. There is no greater cost in using good sand than bad. Vessels bring it here as ballast, and the cost is very slight, almost nothing.

We could not, however, on any consideration, ensure regularity so as to have fixed hours of work. There are so many causes of delay. Pots breaking is one cause. Sometimes we attribute a hindrance to the materials being of different quality, as, though mixed in the same way and the same proportions, they do not melt so soon. Sometimes the coal will make a difference, though not when it is got from the same place and of the same kind. Sometimes the wind is the cause. I have seen boards put to direct the currents, but there are none such here. Some furnaces draw much better than others. A great deal depends on the position, *i.e.* whether the house is sheltered, or is well placed so as to catch the currents; and a great deal also on the ability and attention of the teasers. From one cause or other one house will sometimes be greatly ahead, and be called hours before another. I have known a house a whole journey behind. It is much pleasanter when they are all together. I have known the founding take 24 hours, but that is very rare, and arises from some unusual chance.

Sometimes after the men are called for the working journey, a delay arises, *e.g.* if the metal boils, *i.e.* if gas is bubbling up, which it will do though the metal is fully melted, when the gas has not had time to escape. This may not be discovered till the metal is skimmed and the men ready to begin work. It may cause a delay of from one to three hours. A boil may lengthen the outwork journey too. Or, after the working has begun, it may be stopped by the metal getting thick owing to its being too much cooled, either from enough fuel not being put in, or from ends of glass being dropped in from the pipes. These causes may of course be prevented by care.

It may be true that regularity in founding may be secured in some other kinds of glass. In the finer qualities, plate and flint glass for instance, the materials used are almost pure chemicals, and these can be reckoned on with much greater certainty. But bottle glass is made of the roughest materials that can be used, and which are liable to great variation in quality. These are chiefly sand, and ash made of calcined lime or marle, with ground clay to give a dark colour. The Wear is almost the seat of the black bottle trade, probably owing to the facility of getting good coal and materials, particularly the lime or marle of the neighbourhood.

Much more work is turned out now than was formerly in a given time. The nominal journey, *i.e.*, the amount required to be made in it by one hole is 63 dozen bottles; 75 was quite an average of what actually was made. Now 80 or 90 are made, and with pints from that up to 120. This increases the labour, but it increases the wages also. A quart bottle weighs 1 lb. 9 oz.

Two or three full meals are taken in each journey at intervals of about four hours. There is nothing to prevent having mealtimes of stated length, at stated hours in the journey. Formerly it was the custom in the bottle trade to eat and work. Men's wives would bring them their meals cut up, and a man would eat a bit, then work, then eat another bit. The boys consume a great amount of animal food.

The bottles are drawn from the arches by the putters up before the journey begins, and if not finished then, in breakfast time or somehow afterwards. The bottles put in to-day are taken out the day after to-morrow and so on, or if Sunday comes between they are in a day longer. If there was a demand we might venture on bringing some out earlier, but as a rule it is unsafe to hasten them. Drawing is uncomfortable work and causes profuse perspiration. It would not be at all healthy for boys to work at it continuously as a regular day's work; it would be quite improper. At Seaton Sluice girls draw the bottles and hand them out to women.

So far as boys' health and strength are concerned, they should not come into bottle houses till they are 12 or 13. Speaking from my impressions of ages, and without special inquiry, I should say that some boys begin to gather at 16, the youngest at 14, and some not till they are 18. Boys are always trying their hand in the intervals of work. The general custom in the trade on the Wear, is to bind them apprentices, but we do not either here or at Seaton Sluice, though they are the same in effect.

No ill usage or cruelty goes on. I have known it, but a man was always liable to fine or dismissal for it, and it has greatly gone out. Boys in fault are reported to the office here. But they cannot well neglect their work; when they once begin, they must go on; they are just the same as parts of a machine. In each house one of the bottle makers is also manager, and directs changes in the work, &c.

I should say that generally there is a great improvement in the character of bottle-makers since I have known the trade. There are greater facilities for reading, and a better class of amusements. At Seaton Sluice there was a master who used to let the boys come to school by day or night as suited, but they were far too knocked up, and wanted fresh air instead of school. Being a country place too their time was quite broken up, as they could run out on the sea shore, or bathe, &c.

184. *James Brown*, age 14.—Taker in. Here two years. We boys are called at 12 on Sunday night, and at 1 a.m., 2, and so on on other days, getting about an hour later each day. It is about 4 a.m. on Thursdays and 5 a.m. on Fridays. We are here about two hours before the bottlemakers start work, and they work for 10 or 11 hours; 11 hours is the longest. On the average we are here 13 or 14 hours. One day we were not called till dinner time; the metal turned that bad we had to stop work a bit, and so could not finish till 8 next morning. In this way I have been in the works twice for 20 hours, and once for 24 hours without leaving. Some of us would lie down on the floor and then others would come and wake us. Sunday nights I go to bed at 6, and sometimes, if tired, may slip to bed about 5. Have seen us called at 12 in the middle of Saturday; they wont let you work later than 10 on Saturday night. We stop for meals at about 5.30 and 8.30 a.m., and at 12 for dinner.

Sometimes the men will tell you to jump and do their liking, at other times they will just knock you down. You have to do what they tell you. Was never badly used myself, the lad there has been very badly used. (The boy referred to denied it, J.E.W.)

Feel weakly and tired; am tired when I have to go to the far arch; it is 16 yards each way, and I have to go backwards and forwards to it all day when it is used.

Can read a bit; (when asked to, wont).

The Glass Manufacture.

Bottle Glass.

Newcastle-on-Tyne.

Mr. J. E. White.

q.

The Blaydon Bottle Company's Works, Blaydon, near Newcastle-on-Tyne.

185. *Mr. William Thompson.*—I am manager of one of the glass houses here, and work in it myself as a bottle-maker. The branch of the glass trade carried on in these works is called the pale black bottle trade, and includes ordinary pints and quarts, and also bottles of many other shapes and sizes, as well as larger articles, such as carboys and retorts. The works consist of five glass houses, one only just built and not yet in use. In our trade we make only five journeys a week instead of six as is the practice in the black bottle trade. The reason of this difference is, that in the black bottle trade the sixth journey is paid for as overtime, whereas we should be paid for it only as part of a week's wages. We have to make 63 dozen pints or quarts or 70 dozen small bottles, *i.e.*, half-pints or under, in a journey. What is made above this quantity is paid as overtime.

A working journey lasts from 9 to 12 hours, very seldom as much as 13, not more than twice in the year. The boys are called about an hour before the men. The founding takes from 18 to 20 hours. The reason why our glass takes so much longer time to found than the black bottle glass, is that ours has more sand in it, and is harder to melt. Sometimes the founding takes longer, even as much as 24 hours. This is owing chiefly to a difference in the materials used, as the sand or alkali; not in the coal, we seldom change that.

We thus work day or night or any part of them promiscuously. We can see just as well at night by the mere light of the furnace without any other light. The first journey begins at 1 o'clock Sunday night, and we generally get done somewhere between midnight on Friday and Saturday noon. We give up at half-past 11 Saturday night anyhow, even if we have not made half the journey, but we reckon for full pay all the same. The boys are allowed the odd half hour to clear up before Sunday begins.

Any metal that is not worked out in one journey is left for the next and used then, and is just as good. Sometimes this happens, as it did yesterday, from one "hole" or set of five hands not being able to work, owing to one or two being absent. Then the other three sets work at the four pots, and put down moulds to suit, and make larger bottles so as to use up more metal. If the men are prevented from work by a pot breaking or anything not their own fault, they get half wages, and the apprentices full wages.

We stop about every $4\frac{1}{2}$ hours for about half an hour for a meal, and renew the furnace in these intervals by filling afresh; but we stop at the $4\frac{1}{2}$ hours just the same whether the furnace wants filling or not. It will go longer, as 5 or sometimes 6 hours, without fresh filling. No harm is done to the metal by this stopping.

It takes a good few boys to fill a glass house, more boys (*i.e.* under 21) than men at times, as there are sometimes apprentice blowers and even apprentice bottlemakers, no one being out of his time till 21. Boys are not strong enough for the lowest work, viz. taking in, under the age of 13, and it is not good for them. We seldom have any younger than 13 or 14. That boy, aged 12, is the youngest here now or that I ever had. About 14 is a good age to begin. Sometimes boys begin as old as 16 and get on just as well as others, but to do this they must have fair ability. I began as taker in at the age of 15, and after only two or three weeks became a putter up, and was a blower before I was 18. An ordinary boy could learn to take in in two or three weeks, and after 6 months would be fit to be a putter up. We always pick up the strongest and most able that we can. This is necessary, for in a glass house there is no one but what is busy. All are kept at it pretty well till we stop work. Takers in get 5*s.* a week and putters up 6*s.* with some overtime besides; say 6*s.* or 7*s.* on the average. A boy's getting on depends entirely on how he works, and how much the men help him. If he is a good-natured lad and takes to it willingly the men will help and teach him, and then he quickly gets on. Some never get to be more than a gatherer, though grown up. Where this happens it is likely to be boys who are awkward and crossgrained, and wont be taught. But I have known a boy get to be even a finisher by the age of 18.

Boys are employed here to draw the kilns, of which there are two in each house. This takes them 8 or 9 hours a day on the average, sometimes all day. They work between 6 a.m. and 6 p.m. Girls are not employed in this trade (pale bottles), so far as I know. The reason that they are in the black bottle trade may be that boys are scarcer in those neighbourhoods.

Yorkshire, especially the neighbourhood of Castleford is the chief district for making our kind of glass, and this company is sometimes spoken of here as the Yorkshire Glass Bottle Company, there being few works of the kind in this district. I worked at Castleford and had the same hours and plan of work as here.

186. *John Maguire*, age 15.—Taker in, make five journeys a week. Am called at 12 on Sunday night for the first. Finish sometime on Saturday, but we are not very regular; it may be morning or evening. The latest is $11\frac{1}{2}$ Saturday night. We stop two or three times in a journey to eat, the longest time is about half an hour.

Stockton-on-Tees.

Mr. Bowron's, Glass Bottle Manufacturer, Stockton-on-Tees.

187. *Mr. James Bowron*, son of the proprietor.—We have four bottle houses here and three at South Shields. Here we make six journeys a week, beginning at 12 on Sunday night and finishing by 4 on Saturday afternoon, occasionally earlier. The time taken in founding is pretty uniform with good coal and good furnaces. We are seldom thrown out much. We have been established here a long time, have got into a well settled system, and have good hands. In starting new works there is great difficulty and loss, owing to the want of these circumstances. In this north of England district, *i.e.*, from here to Newcastle, there are about 50 bottle houses. More go five journeys than six. In our works at South Shields we make sometimes five, sometimes six. We cannot always make six there. If six journeys can be made regularly, it may be taken as a test that the house is in good working order. We are able here to save the necessary time in the founding. We have brick furnaces. Brick furnaces heat faster than stone, which are used in some places, and we can heat the metal more rapidly. We make from 80 to 120 dozens in a journey, on the average, say, 90.

The average age at which the boys begin the work is from 10 to 12 or 13, some begin at 9. The trade no doubt has found out the best age for their beginning. If these boys could only work half time, the question would be were to get boys from, as the supply is scarce. If a boy goes off, as one often does, another comes on and takes his place. Boys become wetters off, say, at 13 or 14, gatherers at from 15 to 17, blowers from 18 to 20, it may sometimes be by 17. The head man in a hole is called a bottle maker.

Each house has a woman and a girl to draw the arches. The girl gets in and hands the bottles out to the woman. It must be the girl who gets in because the place is low, perhaps only $4\frac{1}{2}$ or 5 feet high. They generally start work at 6 a.m. and do it as they please. They like to finish the amount and then eke out their earnings by other day work, as there are women and girls in the yard who pile bottles, help pack, &c. These work from 6 a.m. till 6 p.m., with full meal times, and do not work longer. It is very hot work; one girl left it on the plea of her health.

There is a great mortality amongst glass makers

but I attribute this entirely to their drinking so much. There are very few teetotallers amongst them, fewer than in any class, I should say. Those who are teetotallers work quite as well or better. It is rare for glass makers to be attacked by fever, and would be rarer if their homes were clean. The work stimulates the skin very much. When the cholera was so bad at Newcastle, there were very few, if any, cases amongst glass makers. My father attributed this to their breathing air so full of carbon. It is a very hereditary business, and thus boys generally have a father, brother, or cousin in the works who would look after them, and see that they were well treated.

The boys generally have been at schools before they come here. In a night school, in which I am teacher, I have been pleased to see eight of our lads, boys of from 12 to 14, attending. After they have done work here they will go home, wash and go to sleep for an hour or two first, then go to a school, and get to bed.

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188. *George Redman*, age 11.—Taker in. Am called at half-past 11 on Sunday night. Have never been in the works more than 13 hours at a time. Stop a quarter or half an hour for breakfast, and the same for dinner. Earn 5*s.* a week wages, and with the overwork 8*s.* or 9*s.*; it has been as much as 9*s.* 5*d.* Last week it was 8*s.* 2*d.* Mother gives me 6*d.*

Was at school before I came here. Can read, write, and do compound division. Do not go to school, church, or chapel on Sunday.

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[A boy 9 years old, a taker in, (*Arthur Hills*) had done the same work near Castleford before.]

Yorkshire.

189. Castleford, till lately a village, but now, owing to the introduction and great growth of the bottle manufacture there a town, in Yorkshire, is one of the great seats of the bottle manufacture. The principal works there, those of Messrs. E. Breffitt and Co., were visited by another of the Assistant Commissioners, and an account of the system of boys' work there is given in the evidence collected by him (No. 243-245). A number of females also are employed at these works in various ways in the warehouse. The work includes also what is not common in bottle works, the grinding of glass for stoppers, &c. by steam-power. I went through these and most of the other works there, which, with four houses in the neighbourhood, comprise 23 bottle houses at work, and found a general resemblance in the mode of work. The glass houses of new construction were remarkable for their amount of light and airiness. This construction, which I have also seen in several places elsewhere, is said to be far cheaper than the old, and it certainly seems as if it must be more healthy for the workers. I noticed more colour in their complexions than is usual.

190. At one of the works I found a boy, aged 11, a taker-in, with his head tied up and an ugly festering hole beneath caused by a bottle thrown by a man, but it was stated that this was not done on purpose. I had some difficulty in getting at this boy to question him. The distance which he has to carry the bottles from the furnace to the kiln was said by him to be 15 yards, but on pacing it did not appear to be more than 10 yards. He said that they sometimes made 125 dozen in a journey, but at others 100 or so. The distance, taken both ways, with the higher number of times gives ($125 \times 12 \times 20 = 30{,}000$) 30,000 yards or more than 17 miles in the journey, or with the lower number a fifth less.

191. A medical gentleman, who accompanied me through the works, pointed out to me what a large proportion of the boys showed weakness of the legs and knees, some being almost knock-kneed, which he attributed to this great strain upon their ankles in their work at an early age. I noticed a boy doing the preliminary blowing of a large piece of metal which was to form a carboy, the largest kind of bottle made, no doubt to save the man some part of his labour, which is reckoned severe with this kind of bottle. See also No. 202, "It is only in making carboys that a boy blows behind," which seems to imply a general practice of this kind.

Messrs. Kilner Bros.', Glass Bottle Manufacturers, Dewsbury.

192. *Mr. Caleb Kilner.*—We make bottles of all kinds, chiefly the pale green, and we have 10 bottle houses, seven of them in our large works here, two near, and one at Conisborough. Each house has a four-pot furnace, and a set of five persons work at each hole, or in some cases when small work is made, two sets, and we make five journeys a week. This arrangement of the houses and workers, the kind of work made, and the number of journeys, are the same throughout all the Yorkshire bottleworks.

We have fixed the extreme length of a working journey at 11½ hours, *i.e.*, from the time when the founders finish their work and the bottle makers are called till the time when the latter leave off. At the end of the 11½ hours the bottle makers must leave off and the founders are called on again, whether the metal is worked out or not. The reason that we made this rule was, that we found the bottle makers often lose a deal of time, both in working and in coming to work, some not coming perhaps for an hour or two after they were called. If only some in a house did so it threw all the house behind, as the next founding could not begin till all had finished, and besides, there was the loss of having the furnace kept up for those who were behindhand longer than would have been necessary had they not lost the time. Now, if they do not come punctually and work regularly they have not the opportunity of making their full amount of work, so they do not waste the time. We did not find any difficulty in introducing this rule, and it is decidedly beneficial. At one time we fixed it as low as 10, and then at 10½ hours, but increased it to 11½, as trade was good, and we thought that we would give the hands the benefit of it. One hole makes on the average about 90 dozen in a journey, but the number varies greatly with the size of the bottles and other circumstances. Sometimes with small bottles as many as 140 dozen are made.

Allowing for accidental delays, the founding takes on the average 15 hours. If there are no delays, which however seldom happens, it may be done in 14 hours, but not in less, if the pots have been worked out. A house may go a month without the founding taking more than 16 hours.

The hands are called for the first working journey at 3 a.m. on Monday. It used to be at 12 on Sunday night, but we put it later so as to let the founders come later on Sunday, and so give them more of it to themselves, and also it allows the bottle makers more rest on Sunday night. Sometimes they used to come without having been to bed at all.

We do not, and have not for many years, made six journeys in a week. It is not convenient for us to do so. The founding takes up so much time. It could not be done without leaving a large quantity of metal in the pots, which would be a loss. Nor would the men like to work six. We could not therefore work six journeys, and so arrange to make the work fall in the day, notwithstanding that the outside limits of our present five journeys, including meal times, are only 57½ hours. The founders too would not like to have their work thrown all in the nights regularly. As it is, they sometimes try to delay the founding or manage somehow so as to get their work as much in the day as they can.

The houses all begin at about the same time on Monday, but some may be 12 hours apart by the week's end. This depends chiefly on the state of the

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pots. If the pots are new they will hold a full quantity of metal and so take the full time to work out. But in another house the pots will be old and cannot be filled, as they get worn down in front by running the pipe over the edge, or they may have cracks running a foot or more down from the top. These therefore are worked out sooner. If smaller bottles are being made, more metal has to be left in. We change all the set of pots in a furnace at once, as it is one trouble. If we left one or two in because they were apparently good, they might break and throw out the new ones. Pots last from four to seven weeks on the average.

Boys begin as takers in from 10 years old upwards, the wetters off at, say, 12 or 13, gatherers from 14 to 16, and blowers at 16; a boy may sometimes begin to blow at 14. They begin usually on the smaller work, which is much easier; there is a great difference in the exertion between making small bottles and large.

The work is healthy enough if the men are steady, but many knock up from drinking. They are a rough class. They cannot well go to school as boys when they have once begun bottle house work. We bought some books and formed a library here. Anyone that likes can take books home, but very few do.

193. *Patrick Sweeny*, age 12.—Draw the arches. Work at it from 5 or 6 a.m. till 4.30 or 4.40 p.m. Don't like the work very well; it is so hot. Have had a cold, and was in bed with it; have been hoarse ever since. The doctor said I had got the flames in my chest. Caught the cold by sleeping out in the furnace. Had been drawing all day, and at 6 p.m. had to take in for another boy who was away. Took in till 2 a.m., and then slept in the furnace till 5 a.m., when my next day's work began. Got 1*s.* for taking in for the other boy. The other boy who draws slept here with me, because he was afraid to go home and come again in the morning by himself. Have no fixed time for meals. Have about a quarter of an hour for breakfast, and the same for dinner, or can take half an hour then. Earn 5*s.* a week, and have 4*d.* of it for myself. Wash my face and hands at night, and my body once or twice a month. Have only one shirt besides what I have on; wear each a week.

194. *John Morris*, drawer.—Two other men and I draw all the arches, with last boy and another the same age to help us. We draw 70 arches in a week, which takes from 5 or 6 a.m. till about 4.30 p.m., and earlier on Saturday. If one arch is too hot to begin, we go on to another which is cooler.

[The arch which they were then drawing was at a temperature of 106°.]

195. *Samuel Forth*, age 10.—Was 8 or else 9 when I came here. Was first in the yard for a few months at day-work, making rolls of clay for making pots. Then was taker in; am now wetter off. Taking in is easier than wetting off; wetting off is warm in summer. We are called at all times; can't tell you when. On Mondays it may be 3½ or 3 a.m., sometimes 5 a.m. or breakfast time. Ought to have been called about breakfast time to-day, but it is drinking time now, *i.e.*, 4 p.m., before we are called. It is 11½ hours from the time we are called till the time we give over, never longer. It used to be 10, then 10½ hours, but was made longer because they thought that we could make more bottles, I expect. Sometimes make 110 dozen in a journey. Some on 'em can make 120 dozen. Can work a pot out in 11 hours. Came on yesterday at 3 in the morning, and was here till 11 at night; we were not making bottles all the time, but were "laking" about till the other holes had got done. When we have done, we like to "lake" about, whether we are tired or not. Sometimes we are tired and want to give over. (On referring this statement to one of the Messrs. Kilner he stated that the boy's account could not possibly be true, and on referring back to the other men in the house it appeared it had not begun work till 3 p.m. The boy, however, kept firmly to his account. The most probable explanation is, that, owing to the irregular mode of work, the boy had lost the power of discriminating properly between day and night, and called 3 a.m. that which was really 3 p.m., because it came soon after he had got up.—J. E. W.) Will be on 11½ hours this journey, I gain, and finish by 3½ or 3 a.m. to-morrow (*i.e.*, on Saturday). Then will get things ready to set pots, which will take, may happen, till dinner or breakfast time, or before. It takes several hours. When they set pots we boys have to pug up clay, and the muck and bricks to get out, and to sweep up. Get 2*d.* for helping to set pots. Don't like it, because it daubs us and sich; sometimes we go home so as not to do it. On Monday we shall not be called till breakfast time, the pots being new. Sometimes want to give over before a journey is done. Stop twice, or sometimes only once, in a journey for a meal, sometimes for an hour, sometimes half. Always get as much as 6*s.* a week wages, and perhaps 2*s.* 6*d.* for overwork.

Sometimes the boys are hit by the men, and run home and tell mother, and she fetches a summons on 'em (the men), and the men go to prison if they have leathered the boys. Sometimes the men poise us with their foot as hard as ever they can, or hit us with their hands, or fetch sticks to us. If a 'prentice goes home and doesn't work a journey, he has 7*s.* 6*d.* to pay.

Sometimes we get colds with running out of the glass house. We (boys) sometimes drink beer at work. The men drinks drink, *i.e.* ale, which they send us out for.

[A boy carrying lumps of clay for the pot makers was panting with his exertion.]

196. There are bottle works scattered about in other parts of Yorkshire, carried on in some cases in connexion with flint glass making. The two following statements give an account of bottle works in two villages which I visited some miles north of Rotherham.

197. *Mr. Josh. Wilson.*—I am partner in a firm of glass bottle manufacturers at Swinton. We make five journeys a week. The hands used to be called at 11 on Sunday night, and are so still, I believe, in some places, but we have altered it to 1 a.m. on Monday. We are not at work more than 11 hours in a journey; we are sick enough of it by then. When there are pots to set, the hands are kept longer, it may be as much as 18 hours altogether. Big boys help at that. A journey begins as soon as the metal is ready; that depends chiefly on the fuel, and also on other things, such as weather, &c. You can shut the draught off. It has been tried for years to get a regular system of working, but they never can do it. There is a great improvement, however, since I was an apprentice. Then we were called at 11 on Sunday night, and for two years I never got home on Saturday night till 11 or 12. You hardly saw daylight. The furnaces are better arranged now. There are three bottle houses here. They reckon for boys to go into a bottle house at 12 or 13. Some go younger, if their father is dead. I once saw a boy of 8 years old working in a bottle house, or rather trying to work, for he was not properly able.

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198. *Alfred Dunhill.*—Gatherer in a bottle house at Kilnhurst. Make five journeys a week, each of about 12 hours. We are called for the first journey at about 11 Sunday night, for the second at 2 or 3 a.m. on Tuesday, and each following journey begins a few hours later in the day than on the day before, but it is very uncertain when you begin. Sometimes I am 18 hours at home before being called. Worked six journeys one week. There are four glass houses at Kilnhurst, but only two, viz., one bottle and one flint, at work at present.

Messrs. Westwood and Moore's, Glass Bottle Manufacturers, Stourbridge.

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199. *Mr. Edward Windmill*, manager.—The glass made here is "green glass" for bottles of all sizes from the largest "carboys," holding many gallons, to a medicine bottle. Some of the boys take in to the annealing arches, but the large bottles must be carried by men, who hold them over their head: 10 lbs. is the regular weight for a 10-gallon carboy; a lad would not have strength to carry this, or at any rate could not be trusted to put it in safely. Other boys "put up." They put a spot of water to make the glass break off from the iron.

Very few bottle houses, even of the better kind, work at all regularly: they take it all hours, as much in the night as in the day. We used to be the same; but by perseverance and getting a bigger heat we have gained time in founding, and to a great degree overcome the difficulty. The chief improvement has been by getting a draught from both the top and the bottom, instead of from the bottom only as we used to have. This works easier, and gains time. But we cannot tell to two hours how long the founding will take. It is usually from 12 to 14 hours, it may be 16, but if beyond that it makes the work bad. Only three persons, men, work at this. It is usually managed so that the journey can begin in the morning, the boys coming at 8½, 9, &c., and there are five journeys a week. The length of the journey in bottle houses all depends on the kind of work made. Sometimes it is 14 or 15 hours. After the bottle is annealed it is finished; requires no cutting or further work; and also less skill is required than in flint glass, as the bottle is blown in a mould. Boys are bound apprentices at 14 or 15, seldom later than 15. There ought not to be any bottle-glass makers who have not been apprentices.

200. *Edward Windmill*, age 10.—Was 10 yesterday. Here a year. Taker in. Come to work sometimes at 3, 4, 6, or 11 a.m. Have begun at 6 at night, but that is a good while since. Have come at 2 a.m., 1 a.m., 1½ a.m., and 11 p.m. Mother calls me. Began work this morning at 8½; will have done by 6½ this evening, but we boys, 11 altogether, have to draw the kiln also. We come earlier to do this nearly every day. Don't know how long I stopped for breakfast or dinner to-day; we keep no time. Don't all stop together, but go by turns. Sometimes also stop if it is too hot to work. Wash every evening. If I am away from work, they get some one else. Can spell "cat" and "short." (Does from sound.) 3 times 11 is 32.

Bristol.

201. The only bottle works which I could hear of in the south or west of England are those of the Messrs. Powell and Ricketts of Bristol. These are of fair size, consisting of three houses. The system of work as described to me by Mr. William Powell, one of the firm, corresponds with what is described as found in bottle-works elsewhere, except that the working periods in these bottle-houses are shorter than usual, 10 hours being considered a long working journey. Six journeys are made in a full week, *i.e.* when the state of trade and other circumstances are favourable, without being carried late on Saturday or beginning so early as usual elsewhere on Monday, so that under these circumstances the working journey must necessarily fall considerably within the period of 12 hours. Mr. William Powell, though stating that his firm had always been most anxious to do everything in their power to promote the welfare of their workpeople, expressed the strongest possible objection to any legislative interference with their manufacture. He is also one of the owners of a pottery in Bristol which falls under the recent Factory Extension Act. The short expression of his views was this:—"I really do not see "how it would be possible to carry on a business so peculiar as bottle-making under legislative "restrictions, such as those which have lately come into force in potteries, or anything like them. "They would in effect take the management of the business out of our hands. My present feeling is "that I should prefer to give up the business. Experience might possibly alter my views, but at "present what I have said is my most decided conviction."

The Edinburgh and Leith Glass Company's Bottle Works, Leith.

Edinburgh.

202. *Mr. Thos. Dobeson*, manager of the glass houses.—Both houses start work as near the same time as may be, but we cannot be sure of the time. On the average the journey begins on Monday at 2 a.m., Tuesday at 8 a.m., Wednesday at 2 p.m., Thursday at 9 p.m., Saturday at 3 a.m., each lasting about 12 hours, and there being only five in a week. In each journey there are two stoppages of about three-quarters of an hour each, for putting the furnaces to rights, and in these times the hands get a rest and take meals. The boys are called first by a man and come and get things ready, and then each goes and calls a man. Thus on Sunday night the boys are called soon after 12, and other days about an hour before the men begin. Formerly the boys were called at 10 p.m. on Sunday, and everything was ready to begin work as the clock struck 12, but this has not been so for the last eight years. Each hole or set of workers, *i.e.*, three men and two boys, make from 100 up to 150 dozen bottles in a journey. Including six boys in the warehouse and yard, who also draw the arches, there are 24 boys in the works and 56 men. The youngest boys are 12 years old or upwards. The wetters off are generally from 14 to 16. It is only in making carboys that a boy blows behind, but we do not make them now. (Cf. No. 191. J. E. W.) The wetter off has nothing to do with blowing. The warehouse boys work from 6 a.m. till 6 p.m.

I have been in glasshouses, either working or as manager, for nearly 30 years, and am acquainted with all parts of the work. Till four years ago I had always lived in England, and was in bottle houses in Lancashire, near Castleford in Yorkshire, and in the North of England. Our plan of work here is nearly the same as the English, except that in the north of England they tease quicker, because their materials are better, and they can thus make six journeys a week. The chief thing is that they have better coal. They, however, only do the same amount of work in the week, viz., 60 hours. Making six journeys is an advantage. Here the founding, from beginning to end, takes on the average 15 hours, and there only about 12. By the north of England I mean the district near the Tyne, the Wear, and the Tees. In Lancashire and Yorkshire they are situated more as we are.

Accidents hinder us, such as the negligence and carelessness of the founders, *e.g.*, if they get drunk, the breaking of pots, and the weather. Dull weather has an effect on the fire, and causes delay. Pots can often be mended.

The work, I think, does not interfere with the boys' health, if they get their meat and rest regularly. The only thing is, that they are apt to run about in the afternoon when off work, instead of going to sleep. The arches are generally cool enough for the boys to go into, the bottles having been left in over a whole clear day. If they were taken out too early, there would be a risk of their breaking from not being sufficiently annealed. The boys sweat tremendously, but they take no notice of it.

There are no accidents of consequence, only a dab from the hot metal now and then. We generally have slippers for the men and boys to work in, so

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that if any metal drops in, they can shake it out directly. With boots this could not be done. I have known a burn in the ankle from glass falling into the boot lay a person up for two months.

Boys in glass houses have been exposed to very ill treatment, but I believe that it is better now, and have heard men make the same remark. This I attribute to managers taking it up more and not allowing it. I know many managers and believe that they attend to this. I should never allow striking by the men. If a boy were idle and impertinent, and the men were to tell me, I should correct him. But I have heard the men here speak of how boys used to be treated, *e.g.* struck with the shears, or the cage (an iron instrument for holding the bottle with a long iron handle weighing perhaps 10 lbs.), and knocked down in the hole (*i.e.*, work place). I never saw a boy struck with an iron, but even since I have been here I have seen a man throw an iron with a lump of hot glass at the end at a boy. In England I have seen men take straps and leather the boys, and on going into a glass house in the north of England I found a hole lying idle because a man had struck a boy with an iron, and the boy had run away. Boys would, I think, dare to run away if ill-treated, and they thus have the power of throwing the men out, so it gives them some security. Parents, however, often send boys back when they run away. I have had to pay a man for taking a boy's place for a short time, as much as a boy would work for for a fortnight, a boy having run away on account of bad treatment.

The boys here are illiterate and there is great need for improvement in education, but on the whole I think that they are better educated than they are in England in the same occupation and class of life. For one thing we cannot get boys here so early as they do in England. The young boys are not old enough for the work, and they are running about out of doors more. There is little difference as to the kind of work. In England the boys are able to do the work, it is true, but it is because their parents make them. In England boys are far quicker for work, but here for mischief. You may take it generally in going through the three kingdoms and the different trades, that children in England begin work younger, and get to men's work sooner. Here, for instance, a boy generally begins to gather at 16; in Yorkshire he sometimes reaches the top place by about then, and often before he is grown up.

This, however, is not, I think, the only reason why they are better taught in Scotland. In England schools are cheaper indeed, but parents do not seem to care about education so much. They say of their children "they may do as we did." In Scotland there seems a desire for education on the part of the parents as well as on that of the children. Still in a bottle house the boy's only chance of getting to school in the week is on two or three evenings, and very few attend to do much good.

Another bad effect of the work, one of the principal indeed, is that the boys from being with the men so much, hearing all their talk, going for their drink and having sips of it, get to drink and smoke, &c. so early. Boys of 16 now get drunk as easy as the men.

It is quite right that these matters should be inquired into, and it is of great consequence that boys should be educated and kept at school, if possible, till 12 years old. We do not take them younger, but should find it inconvenient not to be able to have them from that age.

[The boys were off the premises at the time of my visit.]

Glasgow.

Messrs. J. and W. Geddes', Flint and Bottle Glass Manufacturers, St. Rollox, Glasgow.

203. *Mr. J. Geddes.*—The black bottle manufacture is carried on largely in Scotland. There are seven firms in Glasgow, including ourselves, one at Leith, one at Portobello, and one at Alloa. The largest has four houses or furnaces, others three, two, or one. Altogether there are in Glasgow about twelve bottle furnaces. A furnace usually has four holes, in some cases six. Five hands work at a hole, viz., the finisher, the blower, the gatherer, the putter up, and the taker in. The two latter are boys, usually from 12 or 13 to 16 or 17 years of age, and gatherers are put on somewhere about the latter age, sometimes earlier. There are other men employed in connexion with the work, as teasers, labourers, &c., and a few boys.

The usual practise in Scotland is to make five journeys a week, the first beginning soon after midnight on Sunday, and the last ending on Saturday afternoon at 4 o'clock. No matter how late on Saturday the last journey began, the men will not work one moment after 4 p.m. Whatever metal is left unworked is used in the following week, but we have seldom any left so then, worth speaking of.

Formerly our first journey used to begin at 12 on Sunday night, but of late years, *i.e.*, within 20 at any rate, our men have preferred not beginning till 2 a.m. on Monday. The reason probably is that they find that there is plenty of time still left in the week to get through their work in, and that they require the sleep on Sunday night to fit them for it. If a man had to begin at 12 he would perhaps think that there was no good in going to bed for only two or three hours, and so would come unfit for work. The two hours earlier start did no real good, as the men would only think that they had plenty of time, and would not use it so well.

Of late we have been making usually six journeys a week, but not long enough to decide finally which is the best plan. About the same amount of work is turned out in the week on the whole. The question to decide is, which is the most economical way of doing it, whether by making a larger amount in each of the five periods, or a smaller in each of the six. When six journeys are made, each working period is about two hours shorter than when five only are made. Our manager seems to think that the six journeys are easier for the men, and it certainly gives them their work at more uniform times, and so leaves more regular time at their own disposal in the evenings. It may turn out, however, that the six journeys wear out the furnace sooner, or that in some other they are not so profitable on the whole.

Whether five or six journeys are made will depend greatly on the manager. If he finds making six easier for himself, or that it pays him better, he is likely to make six suit. Our late manager, whom we had had 10 years, never attempted six. Again, the men may have a fancy one way or the other, and if they have a decided objection to either way, it would be difficult, or impossible, for the master to force them.

When six journeys are made, the time taken in founding must of course be shorter. We take on the average now about 13 hours, but when five only are made the time averages, I should say, as much as 16. The time is gained by our leaving more metal in the pots unworked. When we made five, we worked the metal down to as low as it could conveniently be gathered, *i.e.*, to somewhere about four inches from the bottom. With six journeys we leave about eight or nine inches. This makes the next melting quicker, the pot being warmer, and there being less fresh metal to melt.

It would not be possible to arrange so as to make the working period fall regularly within the 12 hours of day time. Many circumstances happen which delay the process of founding, it may be by as much as several hours. I have known the founding take 18, 19, or 20 hours. These circumstances are such as we often find out only in their effect, and cannot trace

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to their cause. Success in our business of course depends greatly on our being able to do so, and we try as far as possible, but the causes are very difficult to detect while in operation, *i.e.*, till it is too late. The chief are the breaking of pots, the neglect of the workmen, badness of coal, or of any of the material used, *e.g.*, if the ashes used are not properly burned, or a defective state of the furnace. In fact carelessness in any part of the work is sufficient. As to the pots, all that we can do is to make them carefully and season them well before being used. The expense of this is considerable. In Scotland it is customary for glass manufacturers to make their own pots. We employ no boys in it, and only one female, a woman. A pot will only stand a very few weeks, say three or four, without being patched, and after they are patched they are much more liable to break. I know a case lately, in which out of six pots which had been patched, five broke in the first journey. In any case we take pots out at the end of six weeks, as if they are not broken by that time, there would be great risk of their breaking.

If the founders are off drinking, or are not in a humour to attend to their work properly, it throws the work behind. The pots are often ready an hour sooner on one side even of the same furnace than on the other, simply because of a difference in the men who work at the opposite sides, though the coal is put into the same furnace. This week the metal should have been ready at 5 p.m. on Sunday, but from some cause it was not till 4 a.m. on Monday. Of course no one admits the blame, and we often cannot find where it is.

We could not diminish the size of the pots and so reduce the period of founding and working. We must make a certain quantity of work to make a profit. It would cost nearly as much in fuel to heat the smaller pots as the larger, and the space required, which is now very costly, would be nearly the same. Also, a man who had been accustomed to the high wages earned by making a large quantity in a journey, say 150 or 120 dozen, would not take off his coat to make a much smaller, say 80 dozen. The high wages are a great thing for the boys too, as good feeding is the grand thing for them. If they worked fewer hours, and earned only 4*s.* or 5*s.*, that would not keep them. If they are half-starved they are no good.

The working journey is also much lengthened some times by accidental circumstances. I have known it 14 or even 15 hours. When this happens it is usually from one or more of the men being off drinking, so that the other hands have to make up by dividing the work amongst themselves as they best can. This "single-handed" way of working, as it is called, is so ruinous that we try to avoid it in every possible way; we keep a few spare hands, men as well as boys, chiefly for this purpose, finding it to our advantage on the whole to do so, though it is a great expense.

The amount of work turned out in a week has much increased from what it was formerly here, and is in parts of England. This is partly owing to mechanical causes, such as the open and shut, instead of the simple open, mould, and a mould in which the kick at the bottom is formed by the putter up, instead by of the finisher at the marver. Partly also the men work harder. The stated number required to be made by one hole in a journey, for the stated wages, is 62½ dozens. All that is made beyond this is paid for as overwork, and makes a great part of the earnings, being often more than equal to the stated number. In a fair journey, if making pints as well as quarts, we can get as many as 120 dozens, even when working six journeys, and when working five journeys, have as many as 140 or 150 dozens. But the number depends very much upon the workers, and many make much less, some perhaps only 100.

The wages are very good. To take the present week as a specimen, the wages will be about as follows, viz., finishers from 6*l.* to 8*l.* a week, blowers, 3*l.* 10*s.*; gatherers, 2*l.* 5*s.*; putters up 1*l.* 5*s.* to 1*l.* 7*s.*; and takers in 15*s.* They would seldom, if ever, be much more, and might in many cases be a good deal less, but this is not much above what we have been in the habit of paying lately. Boys and all are paid directly by us. Though the amount of work done will vary, employers in the same district must naturally pay their hands at the same rate for the same kind of work.

We have also two flint glass-houses and a cutting shop. The hours and mode of work are the same as those usual in England. We make some pressed flint glass also, but very little of this is made in Scotland. The only other flint-glass firms in Scotland are two in Glasgow and three in Edinburgh. Their system of work is no doubt the same.

Boys must be at least 12 or 13 to be big and strong enough for a glass house. If they are weak or delicate or too small they are of no use, and cannot rise in the trade. The age at which they get to be gatherers depends entirely on their strength and ability. Some never rise to be anything higher all their lives. They are awkward, and seem as if their hands were not put on the right way, so to say. It is a strange thing, but is generally the best behaved boys in which this is found. The boys are generally small for their age. This, I think, is because glass making is hereditary work, and the men marry very early.

We never have any complaint of ill-treatment. We give very strict orders on this point, and allow no one, not even the manager, to strike a boy. If any case came to our notice we should at once hand it over to the police. It is a shameful thing for a man to ill-use a boy. Fines, which we used to have for different offences, are apt to create ill-feeling towards a master, and we gave them up. The boys are generally under their fathers, and thus well cared for. Cases of brutal treatment, such as boys' heads bleeding from being struck with the irons, used to be talked of, but that would only be where stranger boys were at work.

There is no use in any law to prevent boys working too much. That is grounded in the glass-makers' nature, and their independence secures that better than any Act of Parliament. It would be a dangerous thing to interfere by law with the working of the boys; they are far too well cared for already.

There is ample time for the boys to go to school in the week if they wished; for the flint-glass house boys on Saturday, and generally on Fridays too, and for the bottle house boys most evenings. But so far as I have seen, the greater amount of education which some of the working classes have had of late years, has not done much good, but on the contrary is dangerous, making them too independent. I have been in the trade all my life, and there were fewer difficulties from workmen formerly than now. They are very obstinate, and will not adopt improvements, though shown to them to be such. The proper education of boys is of course an important question, but the real difficulty, and one which cannot be got over, is the bad example set them at their homes. It is plain that it is not want of time which keeps boys from getting to school in the week, for they do not go any more on Sunday, when at any rate they have time. I should say that scarcely any, if any, go to church either, not even those who are better taught and can read and write. One or two of the glass-cutting boys go, I think. Some say that they have no clothes to go in; but at any rate they have wages enough to get clothes. Indeed it is sad how little good the high wages do. One boy whom you were speaking to has, I believe, not a stitch of clothing beyond what he has on now, and I question if the family have more than straw to lie on. The grandfather was arrested for debt; and yet 8*l.* or 9*l.* a week go home from here to that family in wages. Instead of schools, boys go to low shows.

204. *John Dermott*, age 14.—Taker in in the bottle house. Went as taker in at a bottle house at St. Helen's, in Lancashire, when I was 8 years old. Had gone there some time before to larn taking in; went first when I was going in sieven. Used to go at the first stop (for a meal) and work till the second stop, about four hours. Worked for father. Used to take in, fetch drink for the men, go messages, &c.

Have made six journeys a week ever since I have been here, *i.e.*, nine months. Not always; when they

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are setting new pots we only make five. We (boys) are called at 12 Sunday night, and the men start work at about 2. A man calls us first, and then we have to call the other men. Them that's tired and sleepy don't come perhaps, and sometimes we have to go and call them twice. We come earlier than the men to clean the irons and moulds, sweep the holes, make up clay, &c., and before starting the men have to skim the pots, and take the stones out. If there were stones in it it would make bad bottles. That takes them about an hour. We are always called an hour and a half or an hour before the men start. Tuesday we are called at about 2 a.m.; Wednesday at $2\frac{1}{2}$; Thursday at 3; Friday at $4\frac{1}{2}$; and Saturday at 3. The men hurry up the teasing on Friday night so as to begin early on Saturday, and finish by 4 in the afternoon. With six journeys, the teasers is only about 12 hours in teasing.

When we are making six journeys each takes 10 or 11 hours after the men start; and when we make five each takes 12 or 13 hours after. We stop half an hour for meat once in a journey when we are making six journeys, and twice when we are making five. In the half hour I have to sweep up the hole, but that only takes five minutes.

Have worked at three other bottle works in Glasgow besides, (*names three, including the two largest,*) as well as at St. Helen's. At all four we made five journeys a week, and just in the same way as when we make five journeys here, with the same two stops for meals. At one place here (the largest) we made six journeys for six weeks, but we could not keep it up. Like the six journeys best, because I get more time for sleep and make more money. Get 12*s.*, 11*s.*, and 10*s.* a week usually; 10*s.* is the lowest, and 13*s.* the most.

Like the work well enough; never mind the heat. Father and my two elder brothers, who are blowers, work here, and they always watch me, and see that I do my work. None of the boys are hit. Did not get drink for myself when I got it for the men. When a new furnace is put up, the takers in have a bottle of ginger (beer) each, and the putters up and gatherers glasses of whiskey.

Do not know the letters. Don't know what a violet is. (Q.—A rose?). It's the shamrock, and there's the thistle too. It's like a round round ball, all nice and red. Have heard of Queen Victoria. What I heard was that, when she was at Dublin she said it was the manliest place in the three kingdoms. Was at school when about six years of age, but only stopped a fortnight. Could not attend and wanted to be at work. My brothers took me to a Sunday school for six Sundays, but they quitted, and I could not go alone; we lived o'er far. Mother is going to send me to a night school, as with six journeys we get every night to ourselves. One taker in and three putter up's have gone lately. Was at one mass, but that is all I've ever been in church. Was never taught to say any prayers. Mother has read out of the Prayer Book about Jesus Christ being put in the coffin, and awake, and alive again. He takes care of the good, but don't like the bad. No; don't think He does like ye if ye 're bad, but He does want ye to be good. Mother axes me to go to school Sunday nights, and to go to church with father; but I'll no go. I don't like to go with him, and would sooner go with my brothers if they would have me. But I stay in the house all day, unless I come up to the works to see how things go on, and if there are any pots broken.

Messrs. Carson and Warren's, Glass Bottle Manufacturers, Glasgow.

205. A few young boys, two aged 8, one 9, and one 10, work in a warehouse handing bottles to and from the packers. Their hours are from 6 till 6 with two hours meals. On rare occasions they work a little longer. It was stated that this had been till 7 only twice in the last six months.

206. *Mr. Thomas Pincock*, manager.—The hours of work cannot be stated exactly, but on the average they are very much what the boy (No. 207) has said; indeed I was surprised to hear how rightly he gave them. The hands used to work till 10 on Saturday nights, but now always stop by 4 on Saturday afternoon. Men and boys are all called at the same time here, and by a man; boys have not to go and call men unless some are lazy and do not come. If they are called at say 12 Sunday night, they are not here much before 1 a.m., and they give over about 2 p.m. On any day from the time they are in the works till the time they leave is on the average about 13 hours, but this is only five times a week. A hole can make 12 dozen bottles in an hour, and I have seen 14 dozen made, but 10 dozen is the average. The working journeys are never lengthened here. Where they are, it is often from laziness. We can avoid it by good management. For instance, if after the men have come, the metal is found not to be fine enough, the teasers used to be called back to make it fine. This might lose 2 or 3 hours or more. Instead of this, we now in such a case make a different and cheaper kind of goods for which the metal will do, though not properly fine.

Most of the time between the journeys is taken for the founding, on the the average about 16 hours. Things will happen to make it longer sometimes, and occasionally shorter; *e.g.*, a difference in the coal, broken pots, weather, accidents to the furnace, &c. I never saw a week through but what there was some irregularity. A found may perhaps take 18 hours or more, but we might go months perhaps and not once have it as long as 18 hours.

If it were necessary it would be possible to arrange so as to make the journeys fall in the daytime, but it would give others always night work. They are only men. But I think five journeys better than six, and should not like six so well. Use has no doubt a good deal to do with this. But as much work is made in five journeys, I think, as in six, or more. With six there is more loss of time in starting, as it takes about 2 hours each time to get ready to start. Five is the general custom in Glasgow. The general system is the same as in these works. I have been in these works 20 years and in the trade 38.

Boys are not suitable for a glass house much under 12, and if they come much older they are getting stiffer and less handy. Few come so very young now. I began at 7 years old. There are the usual workers at each hole, viz., five, but two of our bottle houses have six holes each hole, the third four. Till 8 years ago the glassmaking boys used to have to draw the arches besides their other work, doing it in mealtimes, &c., which was very hard. Now three separate boys are employed for this, and they take turns in getting inside the arch. Girls, I believe, are not employed in this work in Scotland.

The boys' accounts are quite right, except that I never heard of that one (No. 207) having fits. He did fall down once, it may be twice, from the heat and had to go home. It was very hot weather, and then sometimes even the strongest men will have this faintness come over them.

As manager I see that the boys are well used, and one of the workmen is manager in each house under me. If I knew of a man striking a boy I should reprimand him, and if he were in the habit of it, he would be dismissed. But of late years there has been no serious ill-treatment here, except a case which happened about two months ago. The boy complained to the police and they came down for the man. I inquired into the facts and procured proper witnesses, but somehow the man was let slip. He had only been here a very short time, and we have discharged both him and the boy. Neither of them was satisfactory. It appeared that he knocked the boy down and kicked him repeatedly when down,

six or eight times it was stated. He seemed to be a passionate man, but was not drunk. It is 10 years since I remember any boy being hit with an iron.

There used to be a school close by attended by boys from some works of other kinds, to which our boys could go free, but they did not appreciate it, and we have given it up.

207. *George M'Kenzie*, age 14.—Here 4 years. First drawed the arches, then was taker in, and for a year have been putter up or wetter off. Taking in was the best. Didn't like the drawing, it was too hot. It took about half of each day. Mother said I was getting bad at it with cold from coming out into the cold air after being so hot. Do not like putting up. Have a pain in my side at it sometimes from the heat and the sweating. I had a fit from it and fell down in the bottle house. Have a cough and speak hoarse like this always, but have been so all my life. Father is hoarse too. He works here as a spare hand and also blows.

Sunday nights we are called at 12 or a little after, Tuesday about 8 a.m., Wednesday about 2 p.m., Thursday about 10 p.m., and Saturday about 4 a.m. It is about an hour and a half or 2 hours before the men start the journey, and that takes about 11 or 11½ hours, not ever much longer. Stop twice for meals, about half-an-hour each time, sometimes 20 minutes. Just shovel up the glass in these times. Always give over by 4 p.m. Saturdays. Go to bed on Sunday nights at 7 when I come out of school, and in summer rather later, as at 8 or 7½. Can't sleep so well by day as by night, the horses and carts going up and down keeps you waking.

Get 10*s.* and 11*s.* a week with the overwork. Mother gives me 6*d.* for myself, and father used to give me 6*d.* too sometimes. I used to take it to the bank myself, and had 17*s.* saved up, but when my little sister died they buried her with it. Father and mother told me to draw it, and the bankman asked me "was I going to draw it?" and I told him it was to bury my little sister. I have not put by any money since.

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They are kind to me here, but sometimes if you spoil a bottle they are not. One man drawed his hand back and blackened my eye.

Go to school Sunday night. Never was in church except three Sundays. Have no clothes. My trowsers are not so very well, and I have no others. Father is always in wages here.

[Very husky, has a cough.]

208. *James Dunn*, age 14 (?).—Don't know how old I am. Came at 9 years old and helped pack in the warehouse. Then was drawer, now take in. Like taking in better than drawing. My wages are 5*s.* a week, but with overwork it is 8*s.* and 7*s.*, sometimes as much as 11*s.* Get 6*d.* for myself, but never put any by. Go to the Colliseum with it and see niggers. Get plenty of water here; no other drink.

Never was in a church in my life. People sing psalms and read there, about Abraham, and Adam and Eve.

[Face caked with black dirt, ragged. Said to be 14, but looks much smaller.]

Mr. M'Adam's, Glass Bottle Manufacturer, Glasgow.

209. *Mr. M'Adam.*—We make five journeys a week, the first beginning very early on Monday morning, and the last ending some time on Saturday, always before 4 p.m., often before breakfast. When the metal is ready for working the drink tender calls four boys, and they go and call the other hands. The working journey, including an hour or so required to get ready for starting, and two meals of about three-quarters of an hour each, takes 12 or 13 hours, and the founding on the average 16, or a little more; sometimes the founding takes only 14, sometimes 18 or even 20. Roughly speaking the working journeys begin about as follows:—The first between 12 and 1 a.m. on Monday; the second about 7 or 8 a.m. on Tuesday; the third about 1 or 2 p.m. on Wednesday; the fourth about 5 or 6 p.m. on Thursday; the fifth between about 11 p.m. on Friday and an early hour on Saturday morning. The boys who draw work only during the day time, and only part of that. I tried to make six journeys in a week, but I could not make the full six. My reason for trying was that I might let the men have their work in the day-time, which would be more agreeable for them. I only tried it for about a fortnight. The men would perhaps get less wages with the six, as where they work only five they get more over-work.

Boys come as takers in at from 13 to 15 years old. About 16 is the usual age at which they are made putters up. Some are not made so till 17 or 18. So far as mere learning their work is concerned but little time is needed. The work is almost mechanical, and has very little art. A boy of fair ability coming into a bottle house at the age of 16 could learn to be a putter up in a week or two, and might get to gathering in a few weeks. As a fact this seldom if ever happens, but there is no doubt that it might.

There are four holidays in the year, two days at the New Year, and two at Glasgow fair in summer; and for two of these days I pay the wages all the same.

The work is healthy enough if the men would not drink so; and it would not matter so much if they would drink beer, as they do in England, and not hard whiskey, which burns their inside out. But within the last few years there has been much less drinking amongst them than formerly. The only way in which I can account for this is by the general improvement of the working classes of late years. I also have very strict rules on the point, and heavy fines for men who are found in drink. The young boys do not drink, but they get to learn it too early, and they smoke too. In my pottery, which I also carry on here, I do not allow smoking. I think it objectionable for boys, and if they can be kept from it past a certain age, they do not seem to care so much for it, but when they are quite young they like to do it because they think it fine and manly. But in my glass houses I cannot prevent it. Boys are smokers when they come.

There has been a great improvement as regards the treatment of boys generally. The greater part of the men here would not strike a boy, and I am very strict to keep those who would from doing it.

The chief fault of the work for boys, I think, is, that they get too much money for little boys. Takers in get 5*s.* a week wages, and about 3*s.* for over work, and putters up 1*s.* or 1*s.* 6*d.* more. Getting so much money, they can almost put their parents at defiance.

About four years ago I built a little school and procured books, and engaged one of the men at a salary to teach them. Of thirteen, who came at first, in a few weeks all dropped off but three, so it was of no use to keep up the school. The time was arranged to meet the work; *e.g.* if a journey was finished at 4 a.m., the man would take them till 6 or 7, or it might be before a journey began. The independence from having so much money was, I think, a great cause of their neglecting to come. The great bulk too are the children of Irish parents, and some of English, neither of whom are so careful of education as Scotch parents are. It would be a very good thing if there were any means of requiring some education of boys before they could come to bottle houses at all. If a boy can read, it is the making of him; if he cannot, he is likely not to spend his time over well; but if he can, he will sit down quietly and amuse himself. The penny periodicals, of which there are so many now, are complained of by some,

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but they have, I am sure, done a great deal of good, and indeed have quite changed the people within the last 20 years. Now, many will come home and sit by the fire and read a story, and go quietly to bed. It is of course of great importance to boys to have a comfortable home, and it is painful to see what places some are.

Owing to the way in which work used to be carried on in my pottery, the Factory Act has made but very little difference there.

Mr. J. E. White.

Messrs. Burron and Co.'s, Glass Bottle Manufacturers, Glasgow.

q.

210. *Mr. Charles Burron*, junior.—We make five journeys in a week. On Monday the hands are called at towards 1 a.m., but have not got things ready to begin making bottles till about 2. The journey finishes at about 2 p.m., or at latest 2.30. The time taken in teasing or founding the metal is from 14 to 18 hours, on the average say 16. After the bottle makers come, it takes an hour or two before they can start work. The journeys thus fall some hours later each day as the week goes. Also towards the end of the week the journeys become shorter than the first. The actual period of making bottles is not 10 hours a day taking the year through. In each journey there are two stops of 40 or 45 minutes, in which meals are taken, and fresh fuel put into the furnaces to keep up the heat.

If we were required to do without boys working at night we should have to make six journeys a week; in which case the working journey and the founding must of course be considerably shorter. If this is done anywhere successfully it must be with four pot furnaces. Three of our four houses have six pots each, and six journeys cannot be made profitably with a six pot furnace. (But Cf. No. 215, note. —J. E. W.) We tried six for a short time and had to give it up. Six journeys are more costly with six pots than with four. It takes longer of course to fill six pots than four, and during this time there is more waste of heat with the larger furnace. Two men fill the three pots on the one side, and two those on the other. And this loss would happen six times instead of five. Putting on extra men would not save the time, as there would not be room for them to work and get the material any quicker. The hole from which it is taken is too small. Again, if a pot breaks, the waste of heat from the delay is greater, the furnace being larger. Nor can a pot be mended so well in a furnace with six pots as in one with four; in fact, altogether we have not the same control over a six pot as over a four pot furnace.

In Scotland, however, it has become more usual of late years to build furnaces with six pots than with four, so that it is natural to think that they are found to answer best. The idea probably is that they will save fuel. Some manufacturers, however, prefer four pots, some six. We tried six journeys with a four pot furnace also some years ago, and did not find it answer. The men do not like changing to six journeys.

The beginning of a journey is often delayed. The chief cause is the breaking of pots. The materials used for bottle glass are of a much commoner kind and tend to injure the pots much more than those used for other kinds of glass. The other chief causes are badness of the coal and of the materials used, and the neglect of the men. We are not so advantageously situated here in these respects as bottle manufacturers in the north of England. They have better coal as well as other materials. They easily get marle, while we have to use kelp or burnt seaweed. This is often very stony, which causes delay and loss of metal, as a great deal has to be skimmed off to get rid of the stones. Anyhow they seem able to tease quicker, and probably would not find so much difficulty in beginning work at a stated time as we should. In extreme and rare cases it may happen that our founding takes as much as 24 hours, but taking one week with another the delay in founding from hindrances of all kinds is on the average about 4 hours in a week. This may fall all on one journey or be distributed amongst several. The different houses generally start at about the same time.

Time has been gained of late years by the use of more complete moulds, and of saucers to form the bottom of the bottles, but we cannot use machinery of any kind, and see no prospect of it. About 100 dozen at one hole is an average journey. The highest number is about 120. A dozen quarts weigh about 19 lbs.

Three boys are employed in each house to draw the bottles from the arches. They do not work regularly by daytime, but come at the same hours as the bottle makers. The bottles are left in the arch for three days before they are drawn.

From 13 to 15 is the age at which boys usually begin our work. A boy under 13 is too young. It is not good for his health, nor is it safe. He is likely to get burned with so much hot metal about, as well as spoil the work. Boys are not suitable to be made putters up under the age of 14 or much over 16, as they are less handy if they begin older. Some however are not made putters up till they are older, even 18 or nearly grown up. They are usually apprenticed for six years at whatever age they are bound. With the overwork the takers in get 8*s*. a week, and the putters up 9*s*. A boy very seldom becomes a gatherer under the age of 18, but in rare cases they do. One became so at 13.

The work is healthy for the boys if their parents take good care of them at home, and see that they have plenty of sleep and food. If parents take good care of their children at home there is little fear but the children will get on well at their work.

Some time ago we built a school-room and provided books, &c. for the boys. The school time was fixed usually at about six hours or so after the end of a journey, so as to let them go home and refresh themselves and get some sleep. But they would not come, and after about 6 months the school had to be given up. After that, instruments were provided to form a band, and all that the workpeople were required to do was to pay their teacher; but that too fell through.

[The manager of the works, who was stated to be a man of long experience, was called in and referred to by Mr. C. Burron, to ensure the correctness of the details in the above statement.]

Dublin.

The Dublin Glass Bottle Company's Works, North Lots, Dublin.

211. *Mr. Campbell*, partner managing the business. —We make six journeys a week. Mondays we begin early, because the founders come on early on Sunday, say 3 p.m., other days we begin at 6 a.m. as near as may be. The working journey averages about 10 hours or from that to 11. Monday's journey is not longer than the others. Saturdays the hands leave at 4 p.m., and other days at about 6 p.m. We found in the night, and are able to do this pretty regularly, so as to begin in the morning. In bottle works in England and Scotland, as I have understood, the founding takes longer in consequence of their not having so good coal, and they make only five journeys a week. We do not require more than a working day of 12 hours, but it would be difficult to fix within an hour or two at what time the work could begin, owing to the uncertainty of founding. This may be delayed by the quality of the coal, the carelessness of the founders, the breaking of pots and like accidents. Pots may break either in the founding or in the

working, but more often in the founding from the greater heat. If a pot is not so much broken but what the metal can be saved, it is laded out, otherwise it is left till the journey is finished. We could reduce the uncertainty of beginning a journey to within an hour, *i.e.* so that it would not be later than 7 a.m.

For this however the furnaces must be in good order. When they get old and worn they take longer for founding, as they do not hold so much heat. A furnace is constantly wearing out, and requires to be renewed about every 12 months. This is in consequence of the more constant founding and greater heat in bottle houses. In flint-glass houses there is only one founding in a week.

Very few of the boys are under 13 years old, and I believe that most takers in are as much as 14 or 15. They are generally sons of some of the men. A boy would become a good taker in in six months, and do passably in one month. Wetting off is the lowest stage of work at which a boy is taken as apprentice. He takes the bottle from the blower, saucers it, *i.e.* puts it in a mould to indent the bottom, cuts the neck to the right length, and gives it to the finisher. Apprenticeship is for five years: it requires five years practice to become a finisher. If the men have any rule as to the number of apprentices who may be employed, we do not allow it to interfere with us.

The great mischief of this employment is the want of education. I have done what I can by speaking to the parents, and at one time we paid a subscription to the mechanics' institute to induce the boys to go to it, but they did not; so the subscription became thrown away, and we had to give it up.

212. *Mr. John Canning*, bottle-house manager.—Mondays the bottle makers begin at 5 a.m., and other days at 6. It is never much earlier, but may be one, two, or three hours later, on occasions much more. Men or boys go round and call the hands; some may have to be called twice, *e.g.* if they are sleepy from drink. All are in the habit of leaving by 6 p.m. Saturdays we leave by 4 p.m., no matter what consequence it might be to the master. That we consider our right, and it is so understood between master and men.

Some things make a difference to the time taken in founding. Coals differ. Some pots may take longer than others. Too much draught may make the metal boil too much, and then it is longer before it is fit for use, and not so good. Too little wind also may make the founding take longer; so may a contrary wind. We catch the wind on two sides only, say east and west. If therefore the wind is north or south it does not come in so well. It is true that this might be provided for by arranging so as to catch the wind on four sides, if people thought of such things in building a furnace. Neglect causes delay sometimes. Men cannot always be kept attentive, but of course this depends much on getting competent men and looking well after them.

213. *Michael Burne*, aged 11.—Taker in. Some Mondays we come at 2.30 and 3 a.m., but most times at 4 and start at 5 a.m., and leave at 5 p.m. Other days we come at about 6 a.m. and leave at about 6 p.m., always about the same time. If the metal is not all finished it is left in the pots.

It is the heat of the arch that swinged my hair on my forehead so; sometimes it swinges my clothes if the wind draws much.

Don't know the letters. Was at school a month and came away to go to work.

[Of 10 other boys whom I examined, of ages from 11 to 16, three could read, write, and sum, three could read and write, one could "read middling," three could not read.]

The Ringsend Glass Bottle Company's Works, Dublin.

214. *Patrick Bowen*, age 14, drawer.—I am here going on this five years as drawer. Another boy and I draw the bottles from the arch; we have nothing else to do but clear out the cinders. We have a certain work to do every day, *i.e.*, to draw as much as six holes make. One hole makes on the average 90 dozen bottles in a journey, sometimes 120, sometimes only 60; 60 is the day's wages for a hole. Sometimes we take out 600 dozen in a day, often more. The bottles made on Monday are drawn on Wednesday and so on through the week. What is drawn on Monday has been in the oven two days. Am well accustomed to the heat, but would like to get another place if I could. Never got burned, thank God; it's very few that escapes it. When they are burned they have to stay away according to the badness of the burn. Gloves for us to hold the bottles with are given out from the office. Sometimes they are nearly worn out. We two come at 6 a.m., sometimes a little before, all through the year. We have three-quarters of an hour for breakfast, and the same for dinner. Get 5*s.* a week. The bottle makers work by journeys. It takes them about 10 hours to work out a pot.

We have no work on Sundays except of necessity, as if the wine merchants want the bottles of a Monday, and there is not time to get them out of a Saturday or on the Monday. We drew these arches last Saturday night. We had worked from Saturday morning as usual, went away and had supper, and came back at 8 p.m. and worked till 6 o'clock on Sunday morning.

[An arch in use, into which I got was so hot as to cause difficulty of breathing. Another, in which a boy was, was hotter. One boy had his hand tied up on account of a burn. The bottles are grasped by the hand.]

215. *Thomas Brown*, age 10.—Taker in, here a year. On Monday always come at 2 a.m. to get the pipes and all the things ready for the men; they start working at 4 a.m., and finish at about 4 p.m. Other mornings we come usually at about 5 or 6, or as soon as the metal is plain, and leave work at about a quarter to 6 p.m., Tuesday, Wednesday, Thursday, and Friday, and Saturdays at 4 p.m. Are never called in the night, only Monday mornings. One of the night men calls us. We don't stop for no breakfast; Monday we bring it and eat it before we start at 4. Have about three-quarters of an hour for dinner, Mondays an hour. Don't get burned. That boy there gets burned, and has sore feet from his work. It is very hot. Never get beaten. Have 4*s.* a week wages besides the overwork, which may be 2*s.* or 3*s.*

[The proprietors state that a "six pot furnace is always worked here," Cf. No. 210.]

216. *John Smith*, adult.—Teaser. All that work at founding the metal are men, three in the day and six in the night gang. I began bottle house work at nine years old; that is a usual age. The bottle makers begin working the metal when it is ready. That is at all hours, sometimes 4 a.m.; never knew it later than 10 a.m. Sometimes they stop three-quarters of an hour for dinner, sometimes not so much, sometimes more. They never work after 6 p.m. If the metal is not worked out then, they leave it in the pot and it is used up in the next journey; 60 dozen make the stated day's work. The weather makes no difference to the time taken in founding. It is all the coal. Sometimes we get bad coal, then it takes longer. If there is a high wind we only have to put more coal on, as it uses up more.

The Glass Manufacture.

Stained Glass.

Newcastle-on-Tyne.

Mr. J. E. White.

q.

Mr. W. Wailes', Stained Glass Manufacturer, Bath Lane, Newcastle-on-Tyne.

217. *Mr. W. Wailes.*—My business consists in the production of ornamental designs in glass for windows. I do not make the glass, but get it from the ordinary glass houses, where it is made in different uniform colours. The patterns are formed here by arranging separate pieces of different colours, painting, shading, &c. I employ none but men, with the exception of a few boys of a superior class, all over the age of 13, who paint patterns, &c. The persons employed are of several different classes, the work of some being of an artistic and of others of a manufacturing kind. Their stated hours vary accordingly, but all is day work, and none longer than 12 hours with full stated mealtimes. It is only in rare instances that any overtime is made, perhaps for a few weeks before Christmas and Easter, but not more than one or two hours.

There is one point in connexion with this inquiry on which I feel very strongly indeed, and to which I especially wish to draw general attention, viz., the time of payment of wages. My practical experience for several years convinces me that no greater boon to the working classes could be devised, than if all manufacturers and employers could be pratically impressed with the importance of paying the wages at 1 o'clock, *i.e.*, just before dinner time, on Saturday. It is better than Friday night. If wages are paid late on Saturday afternoon or in an evening, a man naturally goes off to a beerhouse, and when he is once there money is soon wasted, and the wives come there late at night trying to get money to buy food and things with. But if a man gets his wages just before dinner time he must go home with them to get his dinner.

The stomach is an imperative thing, and says "dinner," and a man must go. When he thus gets all his wages home, and at a time when he is in a good humour, his wife easily gets the money, and in plenty of time to go into the market and to the shops. I used to pay my men at 4 on Saturday afternoon, and then men would only get away and drink. Ever since the change of the time of payment to the present hour, there has been a most marked change in their habits. There is infinitely less intemperance. My men are of a very high class, and very steady. I should say that more in proportion belong to benefit societies from this than from any other establishment here.

London.

Mr. C. Price's, Glass Bender, Stainer, and Embosser, Clerkenwell Green, London.

218. *Miss S. A. Price.*—I am sister of the proprietor. Glass bending is a separate trade. It consists in bending flat glass into curves for windows, lamps, &c. It is done by heating the glass in ovens and then shaping it, and is hot work. The usual day's work in the trade is from 7 a.m. till 7 p.m. with two hours for meals. It is men's work, but boys are apprenticed to it at 14. There is a boy here who helps the men by cleaning the glass and goes errands. There are only about nine persons in London who carry on the trade, and all on a small scale. This is about the principal place, and it is years since we had as many as six hands. Staining is done by painting the glass with the hand, and then burning the paint in. Embossing is forming patterns on the glass, eating off the surface with acid. It is men's work, as it requires skill. We now get ours done elsewhere.

MISCELLANEOUS EVIDENCE.

Treatment.

219. The statement of the next witness has already appeared mixed up with the evidence on another class of manufacture, into which I was making inquiry at the same time with a portion of the glass manufacture, and was left in its place there to save disarranging the type and numbering when the portion relating exclusively to glass was separated. I repeat it here that it may not escape notice from not appearing with the body of this evidence, and to avoid referring to the witness definitely by name. The place in which he worked was a flint-glass house in the Birmingham and Stourbridge district. The boy, when I saw him accidentally, *i.e.* having no previous knowledge of his employment or story, was seriously ill with heart disease following on two attacks of rheumatic fever, which had come upon him in the course of his employment, and was, by the account given to me, a gentle and well-behaved boy.

220. *Boy*, age 17.—The men are not very kind to you in a glass house; they are rough brutes there. They beat you with iron things, viz., the pinchers that they handle the work with, and the iron that they blow with, and hit you about the head with them, and kick and cuff and swear at you, and they will do this for such little things as, *e.g.*, if you tumble down and break a glass. We do not tell the master, they would beat us worse then. They are awful brutes and would do anything at you. I have seen them knock boys down and kick them terrible when on the ground, so as to make bruises on the body and legs. Once I was taking in a glass and fell down and broke it, and when I came back and told the master (workman) he jumped up and run at me and knocked me down and kicked me. There was a great bruise on my thigh from it. I saw a man hit a boy of about 12 on the back of his head with the blowing iron, which had some glass on the end of it, and cut his head open, and made it bleed. It did not bleed much. We all catched it sometimes. They leathered us sometimes. They leathered us sometimes because we did something on purpose for fun, and sometimes when we could not help it.

221. The next boy works in large flint-glass works in a town in the north of England, where his work is sometimes very hard and exhausting. He is a cheerful, strong-looking, and nice mannered boy, apparently not one who would complain needlessly.

222. *Boy*, age 13.—No, sir; they're not kind to you. You know you can't help spoiling two or three things, and if you do spoil one, they say nothing, but kick you. Sometimes a man says he'll give me a crack o' the lug, and hits me a skelp; we're forced to be skelped now and then. If you don't do just what they tell you they curse so. I have seen two or three boys knocked down. Some time ago a man hit a boy with the punty iron, but he was punished, and I have seen no one hit with an iron since. One Friday night the walking manager very nigh burned a boy. He struck the boy because he (the boy) tossed up a bit of rag, but he was brought up by the boy and fined 3*l*. He carries a belt to hit the boys with.

I did not come as apprentice, though others did. A boy who was "bun" (bound) was used so bad that my father would not let me be "bun." My gaffer now is very kind to me, and some of the men are very kind.

I was at school, but I was so pleased to get here before my schooling was done, viz., at 11 years old, and now I would be glad to get away. That is

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because when you spoil a few things you get called so, that you get sickened of the place. They call you very bad names and say naughty things, asking you what your father can do and what your mother can do, and saying everything bad, *e.g.*, they tell you to go to "the damned place." When they're in a passion they'll say anything or do anything to you, it's nothing to them. No one knows nothing before he comes into a glass-house, you know a vast before you go out. You soon learn things here. Boys think it would be so pleasant to come and get money, but it would be a vast better for them to stay at school.

Father says there was no place so bad as a glass-house, and that it is the same still. He was a glass-maker, and is now a small tradesman. He will not let me go a foot with the other boys here, so when I come out of the glass-house I have to go off by myself or get with boys who do other work.

I hope, Sir, there will be nothing wrong with me for having told you all this. You have asked me a great many questions, and I could not help telling you.

223. The next boy works in a bottle-glass house in a village in Yorkshire. His statement was made to me in the presence of the clergyman of this parish, who stated that the boy and the rest of the family might be relied upon for truthfulness. My first knowledge that the boy had met with any ill treatment was from his mother, whom I saw in her cottage, without any previous intimation, and I went upstairs to see the boy, who was ill in bed, without her.

224. *Boy*, age 15.—I am now ill in bed and in great pain, but till I was bad I worked in a bottle-glass house near here. The men are not kind at all. They use such bad language and curse at you so, that I have come home roaring for it at 1 o'clock in the night. One man for whom I worked was very bad. He has got me up in a corner and knocked me down, and kicked me as I lay, and I have had bruises from it all up my back. He would be like mad at you sometimes. I have been knocked about and kicked by him like this two or three times. Master told him that if he did it again he would give him the sack.

225. *Mother of last witness.*—I have had three sons in glass houses in this neighbourhood. They have been kindly treated by the men, except one, who worked in a bottle house. He has been knocked down and punched, *i.e.*, kicked. The men are so different; some have a deal of patience with the lads, who of course want much teaching before they can do their work properly. Some men are just the opposite. The boy is now ill in bed with bad pain, from gout and sciatica, I think, but I do not know whether it was caused by his work, or how. I think he has done with glass-house work now. He has a burn on his hand. He is only a wetter off, but he was learning to blow a little when work was over, and let the pipe drop, so he put his naked hand into the furnace and pulled the pipe out. It took the skin off his fingers.

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226. *Boy*, age 12.—Taker in in some bottle works (in a town in the north of England, not the town referred to in No. 221.—J. E. W.) The men are kind to you if you do your work right. If you do not, they will hit you a smack on the loof, and say, "That will learn you to do it right next time." If they are vexed at you, or you spoil the work, they will hit you with bessum shanks, what you sweep the coal with, or may be with the iron, and sometimes knock you down and kick you. Have seen four or five other boys served so. Have not been knocked down myself, but have been struck with the "double knife" so (clenching his fist). One man hit me over the head with the het (hot) pipe, but it did not burn me; I had my cap on. Sometimes they put the hot metal at you to frighten you. Boys many times have so run off from work because they are frightened of the men. Got my cheek burned very bad by running against one of the men. Was 10 when I came here.

227. The next boy works in some large bottle-glass works in a town in the north of England, the same as the town referred to in No. 221. The manager had expressed his belief that there was no ill-usage of boys now, though it had been known formerly, and he stated that if a man were known to illuse a boy he would be fined or dismissed.

228. *Boy*, age 14.—Taker-in. We are called about two hours before the men, and are usually here from 12 to 14 hours each journey. Like the work. The men are very kind to me that I work with now, and never strike me. There are different holes where they behave very bad to you. They are such disagreeable men, you can never please them. Sometimes they will fling bricks or anything that comes in the road at you. They do this sometimes if a boy has a bad foot or anything so that he cannot work so well. They think boys have no feeling. We wear slippers, for fear the hot metal might get into your feet. Have seen three boys knocked down by men. If the master knew it they would get the sack. Men often fling the iron at you, but only to frighten you, and they strike some of the boys just to frighten them.

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229. *Boy*, age 11.—Shovel holder in sheet glass works (in another part of England.—J. E. W.) since 8 or 9 years old. We gets hit very often, as, *e.g.*, if we are away for our victuals or anything. They hits us with the shut fist very often across the head. Have been knocked down two or three times, and have seen others what work with me knocked down. They kicks us too on our backside. Have been hurt so myself; and have seen a good two or three hurt by it so that they could not go on with their work. The big boys hits us too if we don't do just what they want.

[This boy is quick and cheerful, but suffers from his work.]

Treatment and Medical.

230. *Matthew Hinchliffe*, M.D., and M.R.C.S., Dewsbury.—I have been 20 years in practice. Some time ago, perhaps three or four years, I was called upon to examine medically some of the boys employed in the large bottle-glass works near here. Some boys who had been set to do some blowing usually done by men, in consequence, I believe, of some men being on strike, complained that the work was too much for them, and refused to continue it, and were therefore brought before the magistrates by their employers. Two medical gentlemen and myself were referred to for our opinion as to whether the work to which the boys were put was injurious to to them, and we gave our opinion that it was so, but another medical gentleman gave an opposite opinion. One of these boys was, I think as young as 14. The case against the boys, however, broke down on a legal point, viz. that they had not been formally apprenticed to their present employers, but only to the former master.

The disease usually supposed to be caused in

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blowers by the lungs being called so much into action, is emphysema, but I have not found that in any boys that have come under my observation. The action of blowing, if continued, must be very exhausting. Boys should not be allowed to do it at all while they are quite young, but I see no reason why they should not go into a glass house at work which does not involve any blowing as soon as they get habits of prudence enough to avoid danger. The mere heat in such works as these here is not enough to be a serious evil.

The loss of regular night sleep, however, which is involved in the glass house system of work, cannot but be injurious. Medical men find that from their own experience. They are shorter lived than men in other professions, such as clergymen or lawyers, and this is attributable to their wearing out from the want of regular sleep by night, not from want of a sufficient amount of sleep, as they generally make that up. It is not exposure to diseases in the course of their practice which shortens their life. Sleep by day is not so beneficial as sleep by night. The presence of day light tends to prevent sleep from being so deep. The night atmosphere also is considered to be more unwholesome than that of day.

A few weeks ago a boy of about 11 years old from the glass works was brought to me by his mother for surgical treatment. One of the men had thrown him down in the glass house and kicked him in the mouth. The kick had cut the lip completely through and knocked a tooth out. If the kick had been on the head the boy might have been killed. It was too bad a case to allow to go unpunished, so, before doing anything to the boy's mouth, I made him go at once, just as he was, to the police office to complain. Otherwise probably it might have been passed over. Boys do not like to complain and fear perhaps that it may get them into trouble. When the case was tried, an attempt was made to excuse the man, but he had to pay a good sum of money.

Cases of such ill-usage as this however, are, I should say, rare. I do not remember others. The bottle workers are not a violent set, though in other respects they are the lowest of the working class about here, both as to ignorance and morality. The colliers are decidedly of a better class and more respectable than the bottle workers. The latter get very large wages, but with their want of education these do more harm than good. The men perspire immensely and drink in proportion. Some have enormous scores for drink; I have heard of some having as much as 25*s.* scored up at a beerhouse for drink in a week. Other classes cannot get the money for so much drink if they wished it. Even boys get into the same habit of drinking. I have heard that mere apprentices will drink half a gallon in a day sometimes,—and that public house beer too. It must very injurious. The class, however, cannot help being very ignorant, as they begin work so young and their work comes at such irregular times.

231. The defence offered in the above case of assault when it came before the magistrate was, that the occurrence was an accident and arose out of some throwing of "slack" or small coal. The case was settled on the man paying the doctor's bill, the amount of the boy's wages while off work, and costs, amounting in all to upwards of 2*l.* 10*s.* The presiding magistrate, whom I saw, referred me to the published report of the case for a strong expression of his opinion against boys of that tender age being employed at night at all, unless absolutely necessary, it having come out in evidence that the boy had been in the works from 5 p.m. till 7 a.m. on the morning of the assault, and that boys of that age were in the habit of being so employed.

Medical.

232. *Adam Jessop*, M.R.C.S., and L.A.S. London, 1828 and 1829.—I have been in practice at Castleford for 26 years, from November 1829 to February 1856, and still reside there and act as consulting surgeon.

The first glass bottle house was begun in the adjoining village, Whitwood Mere in 1828, by six workman from the bottle works of Mr. Bower, of Hunslet, near Leeds.

The first bottle house, "now the Aire and Calder Glass Bottle Company," was built in Castleford in 1836 by myself and one of the partners from Whitwood Mere. In 1839 I ceased to be connected with the works, and introduced Mr. E. Breffit in my place.

Consequently I have had ample means of forming an opinion of the works and workmen generally.

There are now 23 bottle houses at work, 19 in Castleford, and 4 at Whitwood Mere.

The trade is greatly on the increase. Five new houses have been built within the last two years, and there is every reason to suppose it will be very much more extended.

The population has increased in Castleford and the immediate district from 2,000 to 10,000. And parents with young children from the agricultural districts are constantly coming here to obtain work from the glass houses for their children.

The boys begin to work very young, from 8 to 10 years old. In consequence of the extreme heat, and the length of time they are kept at work, say from 10 to 12 hours, they are stunted in their growth, pale faced, the muscles loose and flabby, and nearly in all cases (there is) great weakness of the knees and ankles joints, so much so that the knees press against each other. This, together with the weakness in the ankle joints gives the boys the appearance of being cripples.

I think the hours of working too long, the labour too great, and also too quick, more especially during the summer months, when each boy, that is the little takers in of bottles into the annealing arch, runs upon an average from 15 to 16 miles each journey of five, during the week. I have frequently seen the little fellows with blistered hands and feet, and scarcely able to hobble along.

The night work ought to be avoided as much as possible, as the situation is low and damp. The interior of the bottle houses must be most unhealthy when in one deleterious article alone, arsenic, it is found on calculation that about two tons each week are used in the whole of the works. The boys and men generally take their meals in the house, and one or two narrow escapes from arsenical poisoning have occurred from the food being dropped upon the floor while arsenic is put into the pots.

The men are not subject to any particular disease with the exception of rheumatism. Still few live to a long age, and they become old at 45. *Vegetation* is greatly affected, and more especially during the last few years. The average of deaths is somewhat frightful. But I will not presume to say whether we are poisoned by the noxious gasses given off by the glass works or the river, the main drain from Leeds, Bradford, Halifax, Huddersfield, &c., which is thrown down upon us at the confluence of the two rivers, which join upon us here, the Aire and Calder.

I am told that the regulations in the factories are good and work well. If so, I think that the glass works ought to be placed under the same restrictions, and from my knowledge of the works, I think that the employers would not suffer in a pecuniary point of view, and the boys would not be *discounted*, as they now are for many worthless parents.

To J. E. White, Esq.
5, New Square,
Lincoln's Inn, London.

Castleford, Yorkshire,
February 22nd, 1865.

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Medical.

Mr. J. E. White.

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233. *Samuel Smith*, F.R.C.S., L.—Consulting surgeon to the Leeds General Infirmary, and to the Hospital for Women and Children; also Lecturer on Midwifery to the Leeds School of Medicine since 1831.

I was for 45 years acting surgeon to the Leeds General Infirmary. I have always given much attention to the question of the hours of labour as affecting the physical condition of the working class, and had made many observations on this point, even before the inquiries which led to the passing of the factory Act of 1833. In my evidence before Parliament at that time I stated that ten hours a day was the outside limit to which young growing persons ought to be employed in work of any kind; but my longer experience has convinced me that even ten hours is too long for many. Although the cases of factory deformity have been very materially diminished by the passing of the Act for diminishing the hours of labour in mills, still they very *frequently* come under my observation.

It is of great importance to the health of all persons, but particularly of the young and growing, that their periods for sleep and meals should be regular, *i.e.*, should be of proper length and taken as nearly as possible at uniform times in each period of twenty-four hours. To change these day by day must be very injurious to them. Their period of sleep should be in the natural time, viz., night, and the part before midnight is by far the most beneficial. No young person under the age of 15 or 16 should be allowed under any circumstances whatever to be employed between the hours of 12 at night and 6 a.m.

Free exposure of the body to day and sunlight, at least to growing persons, is as essential to their healthy condition as it is to that of flowers.

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234. *Henry John Yeld*, M.D., M.R.C.S.Eng., L.S.A.—I am surgeon to the Sunderland Eye Infirmary, the Wear Glass Works, and to the Ayre's Quay, and Bridge Bottle Works. I have been in glass houses and seen the work carried on. The maladies which the persons employed in these works suffer from are but few, and during the three years that I have been surgeon to the Wear Crown and Sheet Glass Works, both men and boys have been very free from disease. Bronchial and other pulmonary affections are the diseases to which they are most liable, and this is owing in a great measure to the intense heat to which they are exposed, combined with the extreme draftiness of the houses, men in violent perspiration being constantly exposed to strong currents of cold air. The boys employed in bottle works suffer more than the former, as they are taught when very young to blow bottles, the effect of which is that they are sometimes attacked with spitting of blood and severe chest disease. The sulphurous vapour generated by the coke and coal is also injurious. Rheumatism and rheumatic fever is not so prevalent as one would have expected. Diarrhœa is at times very prevalent. The boys employed in the bottle works suffer very much from whitlows on their hands and fingers, and which they say arise from handling the hot pipes at the same time having their hands wet with water (not always the cleanest) to cool the handle. Burns sometimes occur, but in most instances they result from the person's own carelessness or that of a fellow-worker. Those employed in the bottle works are more liable to burns than those employed in the glass houses (*i.e.* crown and sheet, J.E.W.), as the former are obliged to work very closely together, and are constantly running in each others way.

The boys employed in both places are sallow and not very muscular. The former is probably attributable to the want of light and the latter to the heat.

Both men and boys as a rule get very good wages, and the majority of them live well. They are liable to be called to work at all hours, and thus seldom get the benefit of a regular nights rest, but the boys' work is not continuous, as they often have intervals of rest for an hour or two, which they generally spend in some kind of recreation.

I should say that the sheet and crown glass work was more healthy than bottle making, as I have many more patients in proportion from the latter class. In my opinion glass house work and bottle making is not suited for boys under 13 or 14 years of age.

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235. *H. Rae*, L.F.P.S.—I am the medical attendant of the F Division of the Glasgow Police. There are several bottle and flint glass works in this neighbourhood in which I practise. I have been in works of both these kinds and am acquainted with the nature of the employments. In my opinion they are not healthy, and the appearance of many of the workers shows this. I do not attribute this to the fact of their working by night, but to the long hours and heavy nature of their work. The air too in bottle-houses is loaded with dust, and the bottle-house work is altogether heavier than that in flint-glass houses.

In both, the blowing, especially at an early age, is injurious. Its effect is to strain and weaken the lungs, and produce cough and difficulty of breathing. The changes of temperature from heat to cold may contribute to this. The injury is not of an inflammatory, but of a chronic kind. I do not know that youths begin to blow till about the age of 18, but at that age or soon after patients have come to me complaining of the effects which I have mentioned, and I have had to advise several to give up the work. If they go on they are liable to become asthmatical.

Blowing is not fit for boys at all; but if they do it, it should only be for a short time. An hour or an hour and a half is quite as much as a boy of 14 should blow in a day. No boys who are not physically and constitutionally strong should take to it. I have known many who have taken to it fall into ill health, which they might probably have escaped had they gone into other employments. It would be beneficial if before a boy entered a glass house, his physical fitness for the work were ascertained, as required in factories. I attend the cases of accident in a spinning factory employing about 1,200 persons, but the certifying surgeon for the district certifies. Boys are anxious to get into glass houses because of the good wages.

General.

236. The following general account of the glass manufacture in this kingdom is taken from a paper prepared by Mr. R. W. Swinburne, a large plate-glass manufacturer of Newcastle-on-Tyne and South Shields, and read at the last meeting of the British Association at the former town. As it contains much useful information not otherwise obtainable, I avail myself of his kind permission to me to make use of it.

PAPER ON "GLASS," BY MR. R. W. SWINBURNE.

237. In preparing the following statement I have been much assisted by Messrs. Jas. Hartley and Co., of Sunderland; Messrs. Sowerby and Neville of Gateshead; Mr. Bowron, of Stockton; and Mr. Wailes, of Newcastle, (glass manufacturers.)

Newcastle-on-Tyne and the district immediately adjacent have long been celebrated for the manufacture of glass; and that kind used for architectural purposes, which may be considered the most important branch of the art, was first made in Great Britain within the precincts of this ancient borough. The manufacture, as carried on so long in this locality, consists of the

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following principal departments, viz., plate, crown, sheet, flint, and bottle glass.

Plate Glass.—The art of casting plate glass by throwing the molten material on an iron or copper table, and rolling into a sheet of equal thickness was first adopted in England, in Lancashire, in 1771 ; but there is abundant proof that plate glass of smaller dimensions was made before that time at South Shields, near this town, where is situated the only manufactory of plate glass in this district. Blown plate glass, which was the great original of the art in all countries, depended entirely in its manipulation on the strength of lung and dexterity of muscle of the individual operator, whose *chef d'œuvre* was about four feet long and 2½ feet wide, whereas the cast plate is made by the co-operative effort of 20 men, who move from the furnace the crucible in which the material is melted, and by means of powerful machinery roll it into a plane of any required demensions. Up to the year 1845, the return of the excise duty shows that there was more plate glass made at South Shields than at any other manufactory in the kingdom. In that year the excise duty on glass was abrogated, and in consequence the produce of this manufactory has been quadrupled. Previous to 1845, the quantity of unpolished plate glass blown and cast at South Shields was 312,000 feet per annum. Now its capability of produce is 1,240,000 feet per annum. A new kind of plate glass, called rolled plate, has been for some time manufactured at Sunderland, by the spirited firm of Messrs. Hartley and Co. The invention is due to Mr. James Hartley, who has had the honour of establishing a new branch of manufacture of great public utility. This new article somewhat resembles unpolished plate glass, but is lighter in substance, and eminently fitted for roofing and other purposes of construction where translucency only is required. It is made in two other places in the kingdom, but Messrs. Hartley and Co. alone produce 18,000 supercial feet per week, or nearly one million feet per annum, representing a value of near 15,000*l*.

Crown Glass.—Ordinary window glass was first used in Great Britain for architectural purposes at the great monasteries at Monkwearmouth, on the river Wear, and at Jarrow-on-the-Tyne. When the British Association first held their meeting in Newcastle-on-Tyne there were six large crown glass manufactories in operation on the river Tyne, producing annually upwards of seven millions of feet of window glass. These manufactories have now ceased to exist, owing chiefly to the introduction of sheet glass into this country, and the comparatively low price at which plate glass can be now be had. Crown glass is made in a circular shape, which, of course, involves a considerable loss of surface in being reduced to the rectangular shape in which all window glass is used, and the knob or "bullion" in the centre limits the size of the window panes. The public taste now demands panes of large dimensions, an object which is attained by the use of sheet glass ; and although crown glass maintains the palm of greater brilliancy, yet it must be esteemed in the light of an effete manufacture, and will gradually die out in this country, as it has already done on the Continent. The manufacture of sheet glass has been at different times carried on to a small extent in the old crown window-glass works of the river Tyne, but it is now entirely abandoned, so that in the birth-place of the art in England there is now not a foot of crown or sheet window-glass manufactured. But in the progress of the arts we often see that one process is superseded by another. Crown window-glass is no longer made on the Tyne, and as an art it is declining everywhere, but the manufacture of sheet glass has of late years been most largely increased, and is carried on to a great extent in the adjoining district of the river Wear, where the quantity produced by Messrs. James Hartley and Co. alone is very nearly equal (to ?) the entire produce of the six extinct crown glass manufactories on the river Tyne. To Mr. Chance, of Birmingham, and Mr. Hartley, of Sunderland, we are indebted for the introduction into this country of the manufacture of sheet glass, which may be said to have given a new feature to our public and private edifices. Made originally in a rectangular shape, it is more mechanically adapted for use than crown glass ; and having no knob or "bullion" in the centre it supplies the desideratum of large panes at a low price. So great were the difficulties attending the introduction of this manufacture, that although the original experiments commenced in 1832, the manufacture was not fairly established until 1838. There are two manufactories of sheet (glass ?) in this district, and their united produce is eight millions of superficial feet per annum, which, at a low rate of value, is worth 50,000*l*. The manufactory of Messrs. James Hartley and Co., of Sunderland, produces one-third of the sheet glass made in England. This article has long been manufactured on the Continent, but, owing to the vexatious restrictions of our excise laws, it could not be made here ; and the gentlemen who introduced it into England were obliged to obtain an alteration of the laws in order to construct the proper furnaces for its manufacture. The abolition of the excise duty on glass, together with the numerous and most obstructive regulations which that impost involved, has had an effect beyond all anticipation in improving the glass trade in general (especially the crown, sheet, and plate), both in its manufacturing and commercial character ; and most interesting details could be given of these results were this paper to embrace an entire exposition of the glass manufacture. The commercial improvement of the window-glass trade owes also a great deal to the abolition of the window duty,—a tax which was fraught with great evil to the community. Since this impost was removed windows have multiplied to an extent which cannot be appreciated, and, although the object of its abolition was the relief of the public, yet its incidental result has been to stimulate in no slight degree the window-glass trade of Great Britain.

Flint Glass, the "crystal" of the ancients, has been made in Newcastle and its neighbourhood for a very considerable period, but its early history in this locality is obscure. It is more than probable that its manufacture was first introduced here by Sir Robert Maunsell, who, as before remarked, established window-glass works in this borough in 1616. Originally made from triturated flint, that designation has been continued, although the flint of former days has long been superseded by silicious sand. The manufacture is divided into two branches, viz., blown and pressed ; the first being produced exclusively by manual labour, and the latter chiefly by machinery. The blown flint glass retains its eminence for brilliancy in consequence of its facets being produced by elaborate polishing, whereas in pressed glass they are the result of pressure of a metallic mould on the plastic surface in a heated state. Owing to causes hereafter adverted to, the manufacture of blown flint glass has, in this neighbourhood, declined as much as 50 per cent., but the manufacture of pressed glass has recently been prosecuted with great vigour and success in this locality. One firm, which is at the head of this branch of trade, and formerly produced annually 350,000 lbs. weight of blown flint glass, now make of pressed glass about 3,000,500 lbs. weight. The annual produce of flint glass on the Tyne and Wear is estimated by competent authority at ten millions of pounds weight, the wholesale value of which, including its cutting and ornamentation, is about 200,000*l*. The manufacture of pressed glass has cheapened flint glass articles to such an extent that almost the poorest of the population may be supplied with elegant articles of domestic use, which, a few years ago, were far beyond their reach.

Glass Bottles.—As in other branches of the glass manufacture, this district has been most eminent for the production of common glass bottles. The neighbourhood was deemed especially adapted for the manufacture of bottles, not only from the cheapness of fuel, but from the vicinity of an extensive fluvial deposit at Jarrow Slake (a part of the river Tyne dry

at low water) which was long used as a material in the manufacture. Experience has long substituted more simple materials for this primitive compound, and it is found that bottles can be made wherever lime and sand are found, independently of this once highly esteemed deposit of nature. Since the repeal of the duty in 1845, the produce of common glass bottles has increased four-fold, but there are other causes that have materially contributed to this result. The rapid rise of Australia, and the increasing taste for bitter beer there, in India, and in most parts of the world, have created an immense demand for bottles. During the year 1862 there were 47 bottle houses in operation on the banks of the Tyne, the Wear, and the Tees, and their produce was about 4,230,000 dozen. There has been no important improvement in the manufacture of black bottles for the last twenty years, and in the manipulation there has been no change. The baneful union amongst the workmen forbids all attempts in that direction. The ancient process of fritting, at one time in use in the manufacture of window glass, continues to be used by the maker of black bottles, and no process has been adopted by which, as in other branches of the art, the component materials can be thrown at once into the crucible without heating in a preparatory furnace. A new manufacture of bottles has sprung into existence, and this district has taken a prominent part in it. A mixture, somewhat similar to that used in the crown and sheet glass process, is employed in making what are termed pale bottles, the colour of which is that of window glass. Besides being of a light colour, the skill of the manufacturer has given them every variety of tints by the interfusion of metallic colouring matter, and vessels of various, and in many cases of tasteful, design and colour are made in great abundance, and are in most extensive use. A firm at Blaydon, in this neighbourhood, has attained considerable eminence in this new branch of business ; and there is no doubt that it furnishes a field of great improvement in the approximation of its products to the lucidity of flint glass without the use of the expensive metallic ingredients used in that manufacture. The beautiful art of coloured glass, or what is termed stained glass, has been carried on most successfully for some years in this borough by Mr. William Wailes and others ; and the tasteful designs and beautiful colouring of Mr. Wailes' numerous works have given him a great celebrity throughout the kingdom. A great improvement has been made in this description of glass, inasmuch as exterior staining has been superseded by glass made of the required tint in the crucible of the manufacturer. The glass, therefore, is not stained, but is inherently of its peculiar colour. It is manufactured of any tint at the works of Messrs. James Hartley and Co., of Sunderland. This process of making coloured glass in the crucible has restored the art to its pristine state, for in such manner this glass was made by the old masters. By its means the brilliancy and durability of the old coloured glass has been obtained, and all the colours of antiquity are produced by our modern manufacturers in greater brilliancy, ruby alone excepted. In the production of this colour our manufacturers are gradually approaching the ancient standard. It is ascertained that there is something in the undulating and imperfect surface of the glass of the 14th century which renders it more adapted to display intensity of colour than the more perfect glass of modern times. Hence the coloured glass makers resort to the use of a glass as the basis of their colour which of itself is of the most rude and imperfect character.

A great impediment to the progress of glass manufacture in this district is the trades' union amongst the workmen. In the blown flint trade the union exercises a power which amounts to a domination over the employer. In one case at least a manufacturer permanently gave up his business from this cause, and in other cases large works have been for a time wholly suspended. At present the blown flint-glass makers can only obtain a workman by taking the first on the union-list, and must take the chance of his having the requisite qualifications, and must receive him with or without a character. The workmen in a window-glass factory on this river struck work because a non-union man had been employed in a subsidiary part of the process. They abandoned this work the moment the obnoxious man made his appearance, the materials on which they were operating, of the value of 300*l*., were spoiled, and the works were a long time dormant. The relation of master and man in the blown flint and bottle trades amounts to a chronic strike. Labour in these trades is the great element of expense. The men regulate that expense by a dictation against which the master is helpless. This insensate oppression is derogatory to the intelligence of our time, and most seriously obstructive to our local commerce. Large orders have been transferred from the Tyne to Belgium, and the manufacturers here purchase foreign glass, for the production of which they have every appliance at home, except labour, at a reasonable cost. The success of the pressed glass manufacture is greatly to be attributed to its being independent of skilled workmen, its operations being chiefly carried on by machinery.

A respectable flint glass manufacturer makes the following statement :—"The glass makers' society "decides upon the number of apprentices the master "shall employ, and the rate of wages he must pay "his men. It also orders the allowance of what is "termed 'drink-money,' which is daily spent in the "purchase of intoxicating liquors. This induces "unsteadiness in the men, and in the majority results "in habitual inebriety. The apprentices and boys are "encouraged by precept and example to follow in "the same course, so that the evil is perpetuated. "The master is powerless to prevent intoxication, "for if the drink-money is withheld the whole of the "men strike work. The manufacturer is obliged to "provide the men a certain quantity of what is "termed 'metal,' *i. e.* molten materials to make into "goods ; but if they cannot or will not work up all "this metal, the master has no redress ; it must be "laded up at the crucibles as waste, and the employer "must give the men more drink for lading it." Thus these infatuated men, many of them endowed with great ability in their craft, impair their own efficiency by their sensuality, violate the first principles of political economy, and inflict upon the employer a burden which hopelessly fetters him in the race of competition and improvement.

Another impediment arises from the prohibitory duties imposed by foreign governments. The English makers of plate and window glass have represented to our Government that their cost of labour is 60 per cent. more than that of the foreign rivals, who are allowed to import their produce to this country duty free, whereas the Continental duties are prohibitory. In many articles the English manufacturer could compete with the foreign rival. He asks no protection, but desires equal terms with others, and he will take his chance in the competition. The English manufacturers of glass universally complain that our diplomatists negotiate treaties and settle tariffs without preconsultation with persons conversant with the trade; and they think that better terms might have been had if more information had been previously obtained.

The manufacturers of window glass on the river Tyne have originated so many improvements in the process that a brief allusion to them will be consistent with the object of this paper. * * * * The plate glass manufacturers on this river were the first to discontinue the process of double fusion of their materials, which had up to that time been melted in large crucibles, and then transferred to smaller for a second heating. The large crucibles have been abolished, with few exceptions, and one heating now answers perfectly well, to the great economy of the process. As regards glass processes generally, it cannot be denied that they present a great field for

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improvement. To those who study them in their scientific bearings, there appear many desiderata; and it is to be hoped that the manufacturers engaged in this important branch of our national commerce will energetically pursue the improvement of an art which most materially promotes the physical comfort and intellectual taste of the people, which has brought the costly crystal of antiquity to the tables of the poor, and has given without stint the light of Heaven to the humblest of their habitations.

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238. Upon the reading of this paper, according to a published report of the proceedings,—

A local (glass bottle) manufacturer complained that, whilst all other branches of manufacture were progressing, the glass manufacturer stood in this position, that he was unable to introduce any improvement; the workmen checking every effort at improvement. The rules by which the workmen governed themselves were such as rendered it impossible for the manufacturer to continue at the head of his own establishment, but he must obey those impulses given to him by the workmen. He had got the rules of a section of the "Glass Bottle Makers' "Union." He would not trouble that meeting by any detail of them; but he was sure that gentlemen who were in the trade would bear him out in stating, that not only was the manufacturer controlled as to his mode of working, but that union dictated what each particular man should do. It also intimated that the apprentice might only learn certain branches of his trade; and supposing he happened to acquire other branches, he was not allowed to practise them, and thus the progress of manufacture was impeded. The whole manufacture in this district was delicately poised as to competition with France and Belgium. In this locality they had hitherto had some advantages, owing to the abundance of cheap and good fuels; but those who had listened to the able address of the President of this Association would have gathered from him that it had become a question of some anxiety how long those fuels would continue. If once they were to pay an increased price for those fuels, the position that this manufacture held in this district would, he was afraid, be doomed for ever. He was quite sure that the combinations of workmen as adapted to this particular trade were not only injurious to the manufacturer, but also to themselves. They were oppressive to the last degree. Workmen were not unanimous any more than any other class of the community. They did not all approve of those unions, but they must perforce become members of them. He would respectfully suggest that it was a subject that was well worthy the consideration of our legislators.

239. It is right to remark that I have seen a reply by a "glass-maker and trade unionist" controverting some of the above statements as to the objects pursued and the rules enforced by his own trade, viz., flint-glass blowers. A copy, however, of the "rules of the Flint-glass Makers Society of Great Britain and Ireland" as revised in the triennial conference held in London 15th to 19th June 1855, the latest copy which I have been able to procure, shows that at that date they were of a nature to make the mass of men practically dependent on the society for employment and greatly to interfere with the management of the business by a manufacturer. Some modifications were made at a conference of the men and the Midland Association of Glass Manufacturers in April 1859, and others may have been made since, but the general effect of the rules, according to the common complaint of masters, remains such as makes them dependent on the control of their men to such an extent as to be a serious hindrance and loss to the manufacturer. The matter is one of importance for present purposes, as manufacturers advance it as one of the difficulties which they would find in the event of their manufacture being subjected to any legislative restrictions.

Mr. F. D. Longe.

EVIDENCE ON THE GLASS MANUFACTURE, COLLECTED BY MR. F. D. LONGE.

Bottle Glass.

Leeds.

Messrs. Scott and Co.'s, Glass Bottle Works, Accommodation Road, Hunslet, Leeds.

240. *Mr. J. Scott.*—We employ 70 hands. These consist of men and boys. There are no women among them. About 35 to 40 would be under 18 years of age. The youngest boys are employed in the warehouse; their work is to pack bottles. There are four little boys thus employed who are under 13. They have nothing to do with the manufacturing processes. Our warehouse is opened at 6 o'clock and shut at $5\frac{1}{2}$ in the evening, These boys have not worked after $5\frac{1}{2}$ more than once in 12 months.; they never have been employed all night. The boys employed in the glass houses work the same hours as the men. The week's work consists of five journeys of 10 hours each. The glass makers consist of two classes—(1) the founders, and (2) the blowers. The latter class consist of—(1) makers, (2) blowers, (3) gatherers, (4) breakers-off, and (5) takers-in. The "takers-in" are the youngest boys. The "breakers-off" the next youngest, and so on. The "takers-in" are generally 13 or 14 years of age. Their work is is to take up the glass bottles with a long iron rod and lay them in the annealing oven. When the oven is cold, the warehouse boys take the bottles out, and carry them to the warehouse.

241. *Walter Fothergill*, taker-in.—I don't know how old I am. I have worked here four years. I worked the first year in the warehouse. I have been "taker-in" for two years. I get 4*s.* a week. I think I am 14. I generally work nearly 12 hours at a time. We generally begin at 7, and get away at about 6 at night. I generally stop at 9 o'clock for breakfast, and at one o'clock for my dinner. I have never worked through the day without stopping for dinner.

242. *Samuel Smith*, warehouse boy. I am going 12. I have only worked here since last Tuesday (about a week). I begin to work at 6 o'clock and give over at $5\frac{1}{2}$. On Saturdays I leave at 5 o'clock. Before I came here I worked in a nail shop. My hours then were from 6 to 6, and on Saturdays we gave over at 2 o'clock. I never worked after 6 o'clock. I worked one year there. I never went to school. I got 3*s.* a week. I have two brothers and one sister. All work. I have no father. Mother does not work. I am the youngest.

Castleford.

Messrs. Breffitt and Co.'s, Glass Bottle Works, Castleford, Yorkshire.

243. *Mr. Russell*, partner in the firm.—There are five persons to each hole in the glass furnace. The "breakers off," and the "takers-in" are boys of 10 to 14 years of age. The "gatherers" are apprentices taken from the others at 14 years of age. We have also a few young boys in the warehouse employed in carrying and packing bottles. The blowers begin to work at about 3 o'clock on Monday morning, and

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finish their journey in from eight to ten hours. The journey generally commences about two hours later every day, so that the fifth journey is generally concluded at midnight on Friday or early on the Saturday morning. The boys in the warehouse begin at 8 in the morning during the winter months, and give over at 5½. In the summer they work from 6 a.m. to 6 p.m. All the boys in the works are hired and paid by us. There are 60 boys in the glass houses and 12 boys in the warehouse. All our apprentices are bound. The boys employed as "takers-in" and "breakers-off" for the most part follow the trade. We should never take a boy as an apprentice before he learnt both "taking-in" and "breaking-off." They are generally bound when they are working as "breakers off." The journey is ten hours, including stoppages for meals. The meals are not taken at regular times quite. A journey sometimes takes 11 hours, but that would be caused by some interruption in the work. There never is work for more than ten hours at a time; whenever the men take more than this time, it is because they cannot for some reason or other work the metal continuously. A journeyman glass maker gets 27*s.* a week. The youngest boys employed, viz., three of 10 and 11 years of age get 5*s.* and 6*s.* a week. These wages are high because it is such hot and hard work they have to do.

244. *George Barnes.*—Taker-in. I am going 11. I have worked here six months. I "take in." I began to work this morning at half-past 5. I expect to give over at half-past 3. I get my breakfast at half-past 8. I always stop half an hour for breakfast. I get my dinner at 12 o'clock. I stop three-quarters of an hour for dinner. On Friday we do not begin to work till after dinner. We give over at 2 o'clock on Saturday morning. I once worked for 12 hours and a half. We generally work for about 11 hours. I can't read. I have been to school. I have never been ill since I have been here. I have never had a bad cold. I have never staid away from work.

Mr. Ebenezer Walker Kemp, Surgeon, Castleford.

245. I have practised here as a medical man for eight years, and have had considerable experience as to the physical condition of the young persons employed in the potteries and glass works in the place. I am decidedly of opinion that the health and constitutions of the boys employed in the glass bottle works particularly are seriously affected by their employment. I should attribute the evil effects I have noticed to their being worked too young, to the injurious character of their work, and to their being employed for too many hours at a time. The evil effects I speak of are shown by a general exhaustion of the physical powers of the system. I have in several cases recommended lads to give up the trade, and many have had to do so. I have one case now of a boy of 11 years of age, who is suffering from the exhaustion of his system, brought on, I consider, by his work in a glass bottle house, although he was only four months at work. He was not a delicate boy when he went there. I have another case now of a lad of 18 who is also suffering in the same way, and from a similar cause. I do not think that the boys employed in the potteries suffer so much as those in the glass works.

Tutbury Glass Company's Works, Tutbury, Staffordshire.

Cut Glass.

Tutbury.

246. *Mr. J. Jones*, manager.—Our principal manufacture is cut glass. The only department in which young children are employed is the blowing department. In the cutting shop boys begin at about 14 years of age. They are taken as apprentices. All are bound by deed for seven years. In the roughing shop there are a few young women employed. In the grinding and roughing shops the hours of work are from 6 a.m. to half-past 6 p.m. On Saturdays they leave off at 2 o'clock in the summer. In the winter they work from half-past 6 to 7. They have half an hour for breakfast, an hour for dinner, and half an hour for tea. There is never any overtime in the roughing shop. The cutters work overtime sometimes. They never work more than a week at a time to 9. In the blowing house the hands change every six hours. One set work from 7 a.m. to 1 p.m. and then from 7 p.m. to 1 a.m. The change of hands takes place regularly. There are always two sets going. On Monday work begins at 7. They seldom work after 1 o'clock p.m. on Friday.

247. Roughing Shop.—*Julia Barker.*—I am 18. I have not worked eight months. Before I come here I was at home. I come at 6 o'clock; I leave at 4. In winter I worked to 7 o'clock. I began at half-past 6 in the morning. I never get any grit in my mouth. I am paid by the quantity of work I do.

248. Grinding Shop.—*Charles Vaughan*, apprentice glass cutter.—I have been apprenticed two years and four months. Before I was apprenticed I went to school. I can read and write. I come at half-past 6 and leave at 7 o'clock in the evening. I have worked to 9. I never worked three days running to 9. I often work to a quarter before 8. That is overtime. We have to work this week to a quarter to 8. I get 4*s.* a week regular wage, and may earn what I can over that.

249. Blowing House.—*Thomas Watson.*—I am 12 years old. I take in. I have worked a year and a half. I took in when I first came. I came at 1 o'clock last night and worked to 7 this morning, and then came again at 1 o'clock this afternoon. On Friday I usually stop at 7 o'clock on Friday night. I don't work on Saturday. I can read and write.

250. *Thomas Meer.*—I am 11 years old. I have worked two months. Before I come I worked in the cotton mill. I was a half-timer then.

251. *Rupert Meer.*—I am going 12. I have worked here more than a year. I can't read. I get 1*s.* a day. I take in.

LANCASHIRE GLASS WORKS.

Lancashire Glass Works.

Mr. H. W. Lord.

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GENTLEMEN,

1. I have collected evidence of the employment of children and young persons in glass-works at Manchester, Warrington, St. Helen's, and Leigh. In one or other of such works the various kinds known respectively as plate, crown, sheet, flint, and black bottle glass are produced, all more or less with the aid of juvenile labour.

Age.

2. Boys generally begin at flint-glass works soon after they are 10 years old. A young man, who had himself begun at 8, told me that it was rare at the present time for any to begin so young. Girls are seldom employed in flint-glass works before 11. In plate-glass works they do not usually begin before 12 years of age, and the boys rarely before 13. Boys in crown and sheet glass works begin at 10, but some told me that they were only 9 years old when they first came. I found at a bottle-glass manufactory one aged 9, who had begun before 8 years of age.

Sex.

3. Girls and women are very generally employed, except in bottle and crown glass works. In two plate-glass works where 1,044 persons are employed, 296 are females, four of whom only are under 13, and 88 between 13 and 18. In four flint-glass works from which I have had returns, out of 1,042 persons 126 were females, 11 being under 13, and 50 between 13 and 18.

Number.

4. In the four flint-glass works above mentioned, the total number of children is 114; of young persons 264; and of adults 664; so that more than one-third of the whole—378 in 1,042—are persons under 18 years old.

5. The number of plate-glass works in the whole kingdom is only six, and three of these are at St. Helen's (No. 29). From two of them I received returns, which show that only 12 children and 209 young persons are employed in them. In this case, therefore, not much more than one-fifth—221 in 1,044—are under 18.

6. At Messrs. Pilkington's crown and sheet glass works, as many as 132 boys are under 13, and 134 lads between 13 and 18. Of the females in their employment I have not any accurate returns; more than 150 are employed in occupations similar to those of females in plate-glass works, but not on the same premises as the crown and sheet glass works, nor in any process incidental to that manufacture.

Hiring.

7. The younger lads and the females are generally hired from week to week, and paid by their employers, in most cases by the piece. The older lads are apprenticed in the glass-making "houses," and in the cutting shops. Some indentures bind the apprentice to work for two or three turns (of six hours each) consecutively if required, but this is rarely if ever insisted on. In plate-glass works the younger girls called "colts" are not in the employ or pay of the principal, but are brought by the older ones to help them, in most cases being sisters or daughters of the women whom they help.

Wages.

8. In flint-glass houses the system of payment is a mixture of piece work and day work, whatever is produced in the week beyond a fixed amount being paid for by the piece. Boys under this system earn from 3*s.* to 6*s.* or 7*s.*, 4*s.* 6*d.* being commonly received for their week's wages. Girls of 16 or 17, at St. Helen's, earn about 15*s.* in the fortnight at cutting, and 15*s.* a week at flatting.

9. The drawers in bottle works earn about 2*s.* 6*d.*, the takers-in and wetters-off 6*s.* a week. In crown and sheet glass works the youngest boys earn from 3*s.* to 4*s.* 6*d.* weekly, older ones 6*s.* to 8*s.* The smoothers in plate-glass works earn on the average 14*s.* or 16*s.* a week between two; the division of that amount depending on the relative ages of the pair; a good "colt" soon earns 4*s.* or 5*s.* a week.

State of place of work.

10. The "houses," which contain the furnaces, and where the glass is made or blown, are all airy. The heat at the mouth of the furnaces is very great, but there is no want of ventilation. The flint-glass cutting shops are often close, crowded, and sloppy. In smoothing plate glass much water is necessarily slopped about, but all the premises at such works are large and airy.

Nature of employment.

1. Flint glass.

11. In the flint-glass making houses the work is done in sets or "chairs." There are four persons in a "chair," three men and a boy; the latter carries the pipe with the molten glass in its first stage to the foot-blower from the furnace, and takes the glass, when finished, to the oven to anneal, whence his name of "taker in." The "foot-blower," who is frequently a lad of 17 or so, "gathers" the glass from the pot on to the end of the pipe, until sufficient is accumulated, and then rolls it on the polished steel table called a "marver," to take out the air-blisters, and to solidify the lump and make it of even thickness. He has his name from making the foot of wine glasses, goblets, decanters, and such things. The third, or "servitor," then blows the glass into the requisite size, using compasses, and the kind of pincers called "calopers," to give it an approximate shape, which the chairman afterwards brings to perfection.

12. When the glass is pressed into shape, by being blown in a mould, the chair consists of six; three men, the gatherer, the presser, and the chairman; and three boys, one taker-in and two "stickers-up"; these latter have to be continually carrying off the pressed glass to another part of the house, where they hold or "stick" it up to heat in the fire, so as to melt and round the rim, which the mould leaves rough.

13. In both cases the boys are necessary adjuncts to the men, whose work would be at a stand-still, if the boys were not continually waiting upon and assisting them. (Nos. 1, 8.)

14. "Flatters" in flint-glass works hold the tumblers and such things on the side of a grindstone, which revolves horizontally, to smooth the bottom of them. These are among the youngest of any. The flint-glass cutter stands at a wheel over a trough, and presses the glass he is cutting against the edge of the wheel, under a small stream of sand and water, which drips from a funnel above it. Glass is sometimes frosted by similar means, but generally by the hand with a file, or a bar of glass, and sand. The cutters' wheel and flatters' stone are moved by steam power.

2. Crown and sheet glass.

15. Sheet glass is blown as flint glass is; but the blower's pipe, which holds the glass, is swung round at arm's length to elongate the glass; the lower end is next cut open, and the whole assumes a cylindrical form. The cylinder is then "split," or cut vertically from top to bottom, and on being laid in the oven the two edges separate, and fall over gradually so as to make the flat sheet. In making crown glass the pipe is worked rapidly round and round between the hands, until the opened globe, expanding by degrees, becomes a circular flat surface.

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16. In crown and sheet glass houses the younger boys assist in various ways, some hold the "shovel" to shield the "gatherer" from the heat of the furnace; others of 11 and 12, "pushers," push the glass in and out of the furnace, or lift the cylinders, for the flatteners; others pour water to cool the blower's pipe, and carry the pipe to the furnace, and back, with some heated metal; this is a part of a block-minder's work, the whole of which is excellently described by one of the boys himself. (No. 38.) Others carry the cylinders of glass after they have been split, to be laid in the oven for flattening into sheets. In the warehouses boys cut the sheets (or discs of crown glass) into squares.

3. Plate glass.

17. Plate glass is both ground and polished by machinery; in the former case lads scatter sand and water on the face of the plate, which is fixed in a stone bench; the bench is either made to revolve or stationary; in both cases a massive iron slab, or "runner," works over the surface of the glass. The boy at the polishing machine has to put some moist red material, consisting chiefly of burnt copperas. on the plate while the soft rubbers of the machine are polishing it.

18. The lads who help the men in the casting halls of plate-glass works are all strong lads of 16 or more. The glass is poured from the pots on tables and rolled under immense rollers.

19. Women and girls are employed not only in frosting and cutting flint glass, but, in plate-glass works, in "smoothing" the plates. This they do by the hand, pushing one plate of glass from side to side upon another, with emery and water between the two faces. The lower plate, which is the one to be polished, and is much larger than the other, is set with cement in the top of a stone "bench," or table. When the plates are very large, they have to kneel on the middle of the bench; in other cases they can reach as they stand at the side. It is called very hard work. The knees, too, are often much wetted. (Nos. 30, 33.)

4. Bottle glass.

20. The youngest boys in bottle-glass works "draw" or take the bottles out of the drying kiln; for this purpose they have to enter the kilns, but not before they are tolerably cool; the bottles are, however, still hot enough at times to burn their fingers. (No. 48.) The employment of the rest consists chiefly in "taking in" and in "wetting off," and is similar to what has been already described.

Hours of work. 1. In making the glass.

21. In the flint-glass making houses, where the pots are repeatedly fed (No. 26), it is usual to work in "journeys" of six hours duration from Monday morning till Friday or Saturday morning, there being two sets who follow one another. A boy will occasionally work on for three turns consecutively, or 18 hours, to supply the place of an absent one. (Nos. 1, 8.)

22. In crown, plate, and sheet glass houses the custom is to work out the contents of the pot at one time, and then refill. The hours, therefore, depend on the speed of the workmen, the heat of the furnaces, and other causes, but ordinarily the week's work in crown and sheet houses is made up of four journeys, beginning at various times from 8 or 10 p.m. on Sunday to 6 a.m. on Monday (Nos. 36, 45), and lasting for 10 or 12 hours, with a break of about 30 hours between each, the hours for the boys being always longer, by two or three hours in some cases, than those of the men, as they have to sweep up, &c. (Nos. 39, 45.) In the plate-casting halls they work in alternate night and day sets, but at no fixed times, the secret of casting always at one time being "yet to be learnt in England." (No. 29.)

23. In bottle houses also the system is to work five journeys of 10 to 12 hours, with intervals of from 16 to 18 hours, beginning at about 2 a.m. on Monday. "The young ones get very tired when they are "long about, and some of them come two miles to work." (No. 48.)

2. In finishing, &c.

24. In nearly all operations subsequent to that of making the glass, whatever be the nature of the production or process, the usual hours are from 6 a.m. to 6 or 5.30 p.m. These are, however, in flint-glass works, not unfrequently exceeded by the "flatting" boys, the frosting girls, and the cutters. Girls employed in cutting at St. Helens had been working during six weeks or more before my visit from 6 a.m. to 9 p.m. "as often as not." (Nos. 16, 23.) In Manchester the flatters "ordinarily make "overtime twice in the year, and from two to three months each time." (No. 2.) One boy of 13 had been flatting for more than a fortnight from 6 a.m. to 10 p.m. on Tuesdays, Wednesdays, and Thursdays. (No. 4.) Another of 14 worked from 6 a.m. to 10 p.m. for three days, and to 8.30 p.m. for the other two. (No. 5.) So an apprentice of 15, who was "punting" or rounding the bottoms of scent bottles, had been making 14½ hours a week overtime for three weeks, and said he "got very tired, indeed." (No. 6.) A girl of 14, who had been frosting from 6 a.m. to 10 p.m. for a month, and said that all the girls in her room, but the learners, had, added that she was very tired by 10 at night. (No. 7.)

25. In sheet-glass works the boys, who push for the flatteners, have no fixed hours, but work irregularly, at one time for 8 hours on and off, at another time for 12 hours, but between 8 a.m. and 8 p.m., or 8 p.m. and 8 a.m., working a double shift at the end of each week so as to give the night set of one week the day turn in the next. They had been working from 8 p.m. on Sunday to 9 a.m. on the Monday on which I visited Messrs. Pilkingtons' works. The schoolmaster there informed me that they were often very tired after a long turn, and went fast asleep at their desks, for they came straight from work to school. (No. 36.)

26. In plate-glass works the hours are limited by an arrangement in the trade to 66 in the week (No. 29), and it appears a rare thing for the smoothers, whether boys or girls, to work longer than from 6 a.m. to 7 p.m.; "not once a month till 8 p.m." (Nos. 30, 33.) A boy of 13 had stopped once only in seven months till 9 p.m. (No. 32.)

Night work.

27. In all those departments of glass manufacture, in which the "metal" is worked in a fused state direct from the furnace, night work exists to some extent. In flint-glass making lads of the two sets work for six hours of the night invariably for four or five nights. In crown-glass making at least two of the journeys may be called night work, for they ordinarily occupy most of Sunday night and Tuesday night. In the plate-casting hall they work in night and day sets, generally for less than the 12 hours in each turn. In cases of a break-down also the polishers have had to work by relays night and day. (No. 29.)

Meal hours.

28. In flint-glass making about half an hour in the six is taken for meals, which they eat on the spot. In the "journeys" in crown and sheet glass making there is generally a break of half an hour to feed the furnace, during which the workmen and boys take a meal. The machinery used in polishing and in grinding does not stop for meals. In the latter case, however, the younger boys have generally more than an hour's rest after every five hours, while a subsequent grinding goes on, in which they are not occupied.

Holidays.

29. The holidays usually observed in the district of the works are generally taken.

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30. There is considerable roughness in the treatment of the boys in the glass-making houses. "A deal "of cursing and swearing and knocking down, which didn't do any body much good; the boys often "deserved it, and weren't beat much, perhaps, but they are better without it." (No. 45.)

Treatment. Accidents.

31. Accidents are very rare. The only one I heard of is that which happened to a boy at a polishing machine (see Nos. 37, 42), who was caught in the cog wheels and lost his arm. The pushers' hands are often cut by the glass. (No. 38.) Burns are not so frequent as might be expected.

Influence of employment on physical condition.

32. Beyond the evil results of the intemperate habits, for which the great heat of the furnaces is undeservedly made responsible, no ill effects upon the health are traceable to the nature of the work in the "houses." Cutters suffer, it is said, from colic, through using putty powder; to this cause also the drop-wrist, which is not unfrequent among them, is attributed by some; others consider it to be the combined result of the position, in which the hands are held over the wheel, and of the continual dropping of the water over them. (Nos. 2, 28, 46.) Where girls work as cutters, "most of them get wet "through before the end of the day." (No. 16.) The standing and leaning forward over the breast-board towards the wheel is also very tiring. (Nos. 6, 21.) The grinders and the smoothers in plate-glass works get very wet, especially the latter, when they have to kneel on the plate. (No. 33.) A girl of 15½ called it very hard work, but said that no harm came of the wetting. (No. 30.) These seemed remarkably fine healthy girls.

33. Arsenic is sometimes used as a flux, but in small quantities, and not in such a way as to reach the younger hands. (No. 45.) The burnt copperas (sesqui-oxide of iron) is said to "get into" the men and boys who work at the polishing machines, but to be otherwise innocuous. (Nos, 30, 36.

Moral condition.

34. According to the account given me by a foreman and others at St. Helen's, the moral state of the operatives in flint-glass works there is very low, whatever their age or sex. "Most of their "conversation" (says one witness, speaking of the girls) "is horrid to listen to; some curse and swear "like troopers; not a few have had several illegitimate children;" and of the lads and men in the glass

Education.

house he gives no better character. (Nos. 16, 27.) I found myself girls of 17, who had never been to school, and were utterly unable to read. Even at the Ravenhead plate-glass works, which form a small colony of themselves, under the eye of managers resident on the premises, who take the greatest interest in the welfare of their hands, it was considered necessary to make school attendance of the children compulsory on the parents. To the evidence of those gentlemen, and of Mr. Johnson, the master of Messrs. Pilkingtons' school, at which 260 of their lads attend as regularly as they can, I beg to refer you on this subject. (Nos. 29, 36.) Mr. Johnson states that, when he first came to Messrs. Pilkingtons' school, only one year before my visit, he found 80 boys who could not read. There are, however, in St. Helen's, those who, looking back on a state of things 20 years distant, can bear testimony to the social advance of men and boys.

35. In the Manchester works the girls have a good character (No. 1), and a great improvement in the conduct, especially in the language, of the boys, is recognized. (No. 8.) At the same time, in respect of education, there is both there and in the Warrington glass works still very much to be desired.

36. It is among the flatting boys that the grossest ignorance prevails. Boys of 12 even in Manchester not only could not read, but never heard of London; could not say what county Manchester was in; did not know who the Apostles were, and had never heard of the Acts of the Apostles. Many of them, and of the boys in the "houses," could only read words of three letters, and not even those with ease.

Legislative restrictions.

37. The question of legislative restrictions on the hours of labour in flint-glass works was discussed by me at great length both with Mr. S. Bishop, of St. Helen's, and Mr. Webb, of Manchester, to whose evidence I refer you for their opinions (Nos. 1, 15.)

38. I see no reason why the half-time system should not be applied in the case of such works. The habit of each set working for six hours at a time affords an excellent opportunity for adopting it in the glass-making houses, in which the difference between two boys "is very trifling in general," even though one be a stranger and the other accustomed to the work. (No. 8). It is equally applicable to the flatting boys, who "are easily taught their work," and whose machines are inexpensive (No. 1.), and to the girls, whose "frosting" is hand work of a very simple character. The "drawers-out" in black-bottle works might be included; but in the making "houses" at those works, and in crown and sheet glass works, the inevitable uncertainty of the time required both for melting and for working out the metal renders an extension of that system to them impossible. That their work does, however, admit of an attendance at school for at least three times a week, and in most cases with tolerable regularity, is shown by the actual practice both at Messrs. Pilkingtons', where the school is attached to the premises, and at Messrs. Stocks', where parochial and other schools afford the ordinary opportunities. (Nos. 36, 45.)

39. There seems no reason why the hours for all, who do what is called day-work, should not be limited to those between 6 a.m. and 6 p.m., whether they be at flint-glass works or at any other kind. Mr. Webb expressly states that in his opinion the inconvenience would be trivial in flint-glass works, and it is there alone that overtime is ever worked to any serious extent. (No. 1.) The uncertainty, to which I have already alluded, would make it necessary not to fix the hours in the making houses, and as, from all I could learn, the 12 hours are never exceeded, and rarely attained in them, it would seem that no evil would result from such a course, seeing that night-work, to some extent, is from the nature of the operations in glass-making wholly unavoidable.

40. The question of requiring a certificate of ability to read and write as a condition of employment under a certain age is adverted to in Mr. Bishop's evidence at some length. (No. 15.) In my report on metal manufactures in Lancashire, I have already referred to the very general desire for some such measure. (3rd Rep., p. 181, c. 174.)

I have the honour, &c.
H. W. Lord,
Assistant Commissioner.

LANCASHIRE GLASS WORKS.—EVIDENCE.

Nov.-Dec. 1862, and July 1863.

Lancashire Glass Works.

Mr. H. W. Lord.

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FLINT GLASS MANUFACTURERS.

MANCHESTER.

Messrs. Molineux, Webb, and Co.

1. *Mr. Webb.*—I am one of the firm of Molineux, Webb, and Co. There are between 50 and 60 flint glass manufacturers in the kingdom. Messrs. Percival and Yates and ourselves are the largest producers of glass of the best quality in this town, or elsewhere, I believe, with the exception of Messrs. Sowerby and Nevill's, perhaps, at Newcastle.

We employ 311 persons, of whom 20 boys and 11 girls are under 13, the youngest being 10 years and 2 months, and the rest over 11; there are 65 lads and 25 girls between 13 and 18, and 8 women over 18.

I am sure that there would be no objection on the part of employers generally in our business to reasonable regulation of the hours of labour, particularly with the view of ensuring the education of the younger hands; that is most important, and all manufacturers would contrive to aid any scheme for that purpose so far as they could.

I think they should be made to go to school on the Friday and Saturday. Not 10 per cent. of the flint-glass workers in all England, I should say, work after 7 a.m. on Friday, and not one per cent. after 1 p.m. If they worked late on Friday, the metal would not be fluxed in time on the succeeding Monday. They start in the glass-house at 7 a.m. on Monday, and work in alternate shifts or sets, six hours on and six off, until the Friday; in some places, Newcastle for instance, I believe they work in eight-hour turns, which is in many respects better than six; it divides the night work better, taking the whole week through. As it is with us, most of them do not get more than 4½ hours sleep, and that is, for the young ones at all events, too little. The work, however, is not laborious; the men never leave exhausted. The houses, where the blowing is carried on, are lofty and very airy, and they have not, men or boys, to encounter any excessive furnace heat, as an ordinary thing, in the regular course of work.

They are all paid by the piece, that is to say, so much fixed wage for a given quantity, which we expect, and so much more, divided among the set, for production beyond that quantity in the time allowed for it. Here is a man, for instance, whose ostensible wage for the 48 hours is 23*s.*, but he draws 2*l.* 6*s.*; so the boys' wage is 3*s.*, but they will draw 4*s.* 6*d.*, 5*s.* 6*d.*, and 6*s.*; here is one who last week drew 7*s.* 10*d.* There are a number of lads always hanging about on the look out for employment.

The absence of one boy would leave the whole set idle, if his place were not supplied, and so four or five men would be rendered useless, and be earning nothing. The "taker in" is essential, because the annealing cannot be delayed, or the glass would break at once, and it is that, for which he "takes in." Sometimes one boy will take the turn of another who is absent, and so work on for 18 hours at a stretch; that is quite voluntary; he does it to please himself. We have a clause in our apprentices' indentures that they shall work one or two turns over, if it be needed, but we have never had occasion to avail ourselves of it.

In the other departments of the business, the frosting, flatting, and cutting, they are liable to overtime through the requirements of trade at certain seasons, chiefly those of Christmas time. For 14 days past we have been working some of them from 6 a.m to 10 p.m. We are going to get more hands next Monday in order to prevent the continuance of such long hours. We do not like overtime, it is very costly to ourselves; the wage alone is 18 per cent. upon the ordinary working hours, for our week for day-workers is 58½ hours, and we pay the same for 48 hours overtime as for a week's work, and for a less time in proportion, by the hour in either case.

Flatters are easily taught their work, and the expense of their machines is so slight that we may as well have some more in, and spread the work. The girls are all engaged in frosting; that is done by the hand, with sand and a file, or a bar of glass. They are all by themselves, and are a very decent and respectable class of operatives, very superior to the factory hands in this neighbourhood. We have been here 30 years and have never had one of them go wrong.

Our usual hours are 6 to 6, and on Saturday they leave at 12.30; breakfast is from 8½ to 9, and dinner from 1 to 2, for the day workers; all but those in the glass-houses, that is; there they have half an hour generally in each turn of six hours for a meal, which they take, as they are, in the house; the others go home.

It sometimes happens that they are late on the Friday in the glass-houses, so they get behindhand in the flatting, for that will throw us late in beginning the next week, since the metal will be later fluxed, and consequently the flatters will have no work at first, and have to make that up.

I have doubts about the success of working relays on the factory principle in our business; having, that is, two sets of boys for each "set;" the result would probably be a continuous tyranny over the worse boy of the two, if he were slower or otherwise less useful to the men in his set than the other: besides that, as we work, one of the boys would always have to be on for the night turn; they might, however, it is true, change week and week about; after all perhaps it might do, if they could be got to come for half their present earnings.

As to the restriction, upon the hours of young persons' labour, there would be but a very trivial inconvenience from that, and at the worst we should only have to get more hands. If all, or the most important, trades in any particular locality could be put under one comprehensive enactment as to the employment of the young, no harm would be done, for things would continue relatively as they are.

2. *Mr. Mitchell.*—Am the cashier at Messrs. Molineux, Webb, and Co. About a month or so before Christmas is always our very busiest time; we are dreadfully bothered just now to get our frosted work done rapidly enough for our orders.

The flatters, too, are working long overtime; they are on the pressed glass tumblers chiefly, the bottoms of which are rough and uneven, till they flatten them on that kind of horizontal grindstone which you see; that is called a Jenny Lind machine. The press is so rapid in its production, as often to get ahead of the flatters, so they have to work overtime, when the demand for pressed articles is great, in order to keep up with the produce of the glass-house. They ordinarily make overtime twice in the year, and from two to three months each time.

With the cutters it is not so usual to have overtime; they have been working this week past till 8½ p.m. from 6 a.m., and will continue to do so till after Christmas, but at this season last year they made no overtime; it is two years since they were working till 8½.

Colic is a frequent complaint among glass-cutters; that arises from the putty powder used in polishing. The drop wrist is also characteristic of cutters; we have had lots so affected; that is the result of the way they have to hold their hands; they generally sit to their work.

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3. *Isaac Webb*, foot-blower.—Am 18; began at 11 years old as a taker in; many here now, boys and young men, can't read or write; I can. I got mine on the Fridays and Saturdays, and sometimes at night school.

4. *James Hammersley.* — Am 13; am flatting tumblers; have been here a good while; am working now from 6 a.m. to 10 p.m. on Tuesdays, Wednesdays, and Thursdays; that has been so for more than a fortnight; it was the same last Christmas. Go to Sunday school; can't read.

5. *Richard Mather.*—Am 14; have been here 9 weeks; was half-timer in factory for two years before that; went to factory school then; can't read now; have forgotten. Am a flatter; work from 6 a.m. to 8½ p.m. twice a week, and till 10 three times a week.

6. *Philip Mac Dowell.*—Am an apprentice, turned 15; have been two years here; am now making 14½ hours a week overtime, the same as the flatters, that is; I should properly be in the cutting shop, but just now I am "punting" these bottles; rounding the bottoms in, that is. I get very tired indeed; the overtime has been going on for about three weeks.

7. *Mary Ann Bray.*—Am 14; began here at 11 years old; am frosting glass; have stayed for the last month till 10 p.m. from 6 a.m.; all the girls in this room have, except the learners, who leave at 6; am very tired by 10 at night; have been to day school; can read.

8. *James Baron.*—I am head of this "chair"; have been at these works from a boy; was 7, nearly 8 that is to say, when I first came; began as "taker in"; that is what all do at first; many used to come as young as that; they seldom come under 10 now, not in the glass-house at all events, and most not much under 11. There is a general improvement in conduct and in education too, as compared with what the lads were 20 years ago, especially in the language they use, which is much less coarse than formerly. Still there are a many that can't read at all; even among the men I can count up 15, who don't know more than their letters, and can't write their own name.

It won't do for them to begin too old at glass-making; a lad, who does not begin till 12, will never make a glass-maker. It's easy work "taking in" and "warming in," which is what they soon get to do, holding the glass in the furnace on the pontil. "Taking in" is just running away with the finished glass to get it annealed; the fifth hand in the chair does that; the fourth hand will be older, from 12 to 16; he gathers metal for the foot, and assists the servitor and foot-blower; we used to have only one boy, the fourth hand, in a chair, and that is still the case in many works, but our masters let us have the fifth, and pay him themselves; we are enabled by that extra aid to get through a good deal more work. I dare say I get 2*s.* 6*d.* a week more because of that fifth hand, for we are paid piece work.

It is, I think, by no means a very general habit for the boys to work 18 hours at a time through taking some other boy's turn besides their own. It will happen about once a week perhaps with one boy or another, but generally there are spare lads on the look out for chance work, running about between this and the other glass-works, whom we can employ if the regular one is away. The workman puts up with the deficiency; it is better than having none; indeed, the whole set would be stopped, and could not earn a farthing, if they had not some one to take in and do the boy's work; but the odd one does nearly as well; the difference between the two boys is very trifling in general.

They might, if they liked, always go to school in the afternoon of Friday and the morning of Saturday, and have two nights' schooling in the week besides. Bamford and I tried having a school on Fridays; we could not keep it on then, but before long we shall have a school for glass lads in Manchester.

Messrs. Percival and Yates.

9. *Mr. Yates.*—We have 373 persons in our employ; 48 are boys under 13, nine or ten of whom are only about 10 years old; the youngest of those wash the tumblers, for they are not strong enough to hold the tumbler on the wheel for flatting. Some between 10 and 11 in the glass-house will be "taking in." There is a prejudice among the glass blowers that no one makes a good glass maker, unless he begins young.

We have 75 lads between 13 and 18; some of those will be flatters or cutters, and some in the glass houses assisting as takers in, stickers up, or footblowers.

We employ 31 females, 9 of whom are under 18, but none under 13; some of them frost the glass with a file and sand, but most of our frosting is done by lads at machines; the rest of the women are in the stock room.

Our usual hours for all but the glass houses are 6 a.m. to 6 p.m., and we leave off at 1 p.m. on Saturday; but in the glass houses two sets are employed, who work by turns every alternate six hours from 7 a.m. on Monday to Friday morning, making 51 hours in the week. In the warehouse and cutting shop we occasionally work till 8 p.m., but not more than two or three weeks in the year, about Christmas time.

In the glass houses they have half an hour in every six for a meal; all the other branches have an hour and a half; the latter leave the premises; the glass-blowers eat theirs at their place of work.

As the metal has to be heated in the furnace, and prepared for working, from the Friday to the Monday, and has then to be worked out during the week, night-work is necessary in our business.

10. *Robert Pimlott.*—Am 12 years old. Have been here two years, at the same work, "flatting" tumblers. Never heard of London. Don't know what county Manchester is in. Can't read.

11. *John Billington.* — Am 12. Have been here two years. Go to Sunday school now; used to go to day school. Don't read in Testament or any other book; he (the teacher) tells us about Jesus. Jesus is Christ. I don't know what that means; don't know who the Apostles were; never heard of the Acts of the Apostles.

12. *James Macarthy.*—Am 13. Began here at 10 years old; went to day school for two years before that; learnt to read and write, and do sums as far as long division; go to Sunday school now; can't write or do sums now; can read a bit. (Only letter by letter.—H.W.L.)

13. *John Hackett.*—Am 14. Used to go to day school three years ago, and go to Sunday school now; have just begun to go to night school; can spell a bit, g, l, e, s, spells glass. (Reads a very little.—H.W.L.)

14. *Francis Maculloch.*—Am 14. Have been here five years. Used to write and do sums, as well as read, but can only write my name now; it's so long since I went to day school that I have forgotten. I could always go to night school now if I liked, but I don't. (Reads tolerably.)

ST. HELENS.

Messrs. S. and C. Bishop and Co.

15. *Mr. S. Bishop.*—We have 152 persons in our employ, 16 boys under 13, 20 lads and 14 girls between 13 and 18, 78 men and 24 women, who are adults.

The information which you have obtained in our works is in the main correct. In the glass house the boys and men work in sets, one from 7 a.m. to 1 p.m., and the same set again from 7 p.m. to 1 a.m., the other set taking the hours 1 p.m. to 7 p.m., and 1 a.m. to 7 p.m.; when in full work each set will make 60 hours from Monday morning to Saturday morning;

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from that there must be deducted 10 half hours for meals, making 55 working hours as a maximum for the week; that, however, is seldom fully kept up for a month together, owing to various accidents, such as the breakage of furnace pots and the like. At this moment, for instance, in one of our furnaces, where there should be five pots, there are only three; consequently there are two sets for each of the absent pots not working just now. For the greater part of this year, I should say, each set will not have averaged over 8 turns a week, or 48 hours. The only case, in which these six hour turns are exceeded, is when the place of one accidentally absent through sickness or any other cause is filled by another, who is willing to work extra hours for that purpose.

The reason of our not emptying our pots at one "journey," as they do in the crown and other glass works, is simply that our operations are slower, our consumption of metal, that is, less in the same time. They take always one uniform time with very little variation in emptying the pots, making chiefly glass of one shape and thickness. The articles we produce vary in size, weight, and form; for our heaviest one pot would last 24 hours, and might for some things last two or three sets a whole week.

As to the character of our men and lads in the glass house, I dare say there may be some pilferers among them, but they are not, as a class, dishonest. If I know of cases where the boys don't take their money home to their mothers, I only pay the wage into the mother's hand. I have done that sometimes, but the mothers soon get too lazy to come for it. I don't think the colliers' children so much worse than the rest; colliers have a bad name; they used to live as it were isolated from every one, and were rough and ignorant; to some extent they are so still, but towns have grown up round coal pits of late years. I can recollect when coal pits were being worked in the middle of St. Helens; the colliers have now been forced to mix more with their fellows, and have improved accordingly.

My brother thinks that no child under, say 14, should be allowed to be employed, unless he can read and write; that, though it would work perhaps awkwardly for the first few years, parents, however improvident and unprincipled, would soon find that sending their children early to school would then be the only way of turning them to good account. I am very doubtful about drunken and dissolute fathers or mothers,—and they are the only ones, except poor widows, who do not now get their children some education, at all events in St. Helens—looking on so far beyond the gratification of their own bad habits; and on many orphans it would fall very hard. On the whole, I don't see why the half-time system of relays with the condition of compulsory school should not work well in our business. It would be hard though to deprive a lad of 12, who happened to be a good scholar and as strong, may be, as many boys of 14, of the opportunity of earning full wage. In our chain-making room and warehouse I shall try it next year. The men in the glass-house would not like having two boys for the same work at the different times of the set, unless both were equal; but after all it might be done.

It would be impossible to carry on the business without working night and day on the system of sets or turns which I have mentioned. On the Continent and in America, the same system prevails, except that on the Continent they work 12 hours at a stretch, instead of 6 hours as in England.

The system in operation is a self-acting security against almost any increase of the hours of labour beyond 11 in the 24. The great cost of fuel for the preparation of glass prevents manufacturers of it from using furnaces capable of producing more than their full ordinary requirements.

The quantity of the material to be wrought being thus limited, is an additional hindrance to any attempt at working beyond ordinary hours.

The evil of our trade is, that any sudden influx of orders cannot be met by any proportionate expansion of production. Our arrangements are made for the ordinary demand, and our people (when the demand falls off), are therefore often only three-fourths employed. The finishers (grinders or cutters) alone may be said ever to work over-time, to compensate them for being often only partially employed. The overwork of these never exceeds 8 to 10 hours per week, divided among four or five evenings. Our trade is therefore protected by its peculiarities, from any excessive amount of labour on the part either of adults or children.

16. *Charles Taylor.*—I am the general manager of Messrs. Bishop's works. Our young hands are a very rough lot, male and female. I think the latter perhaps the worst; we employ girls from about 16 years old in the cutting rooms; there are two such rooms, one above the other; no men work in them. I put the better sort of girls into the upper room to keep them from being made worse than they are; but I fear they are not helped much by that, there is very little to choose between the two rooms.

Many of them are the children of colliers, who are the worst class of any about, so that home is a very bad school for them to begin with. Many can neither read nor write. Most of their conversation is horrid to listen to, some curse and swear like troopers; not a few have had several illegitimate children; our rule is not to admit them to work again after that, but it often happens that those are amongst our best workers and we can't do without them. There is one there who sleeps with one man or another nearly every night of her life, so they say. There are married women in the same room with them, but I don't know that that does any good. There is that girl H. for instance, the language that her mother uses before her and to her is positively shocking; that is a case of a collier's family. There is another, E., she is 17, her father also is a collier and in work; she earns her 15*s.* a week, but she can't read; the family is large, and they are in a state of sad destitution.

Their hours are from 6 to 6, but for the last six weeks or more the orders have been pressing, and we have had to work there till 9 p.m. as often as not. They have to stand to the work leaning over the trough into which the sand and water falls from the funnel above; they have to hold the glass, which is chiefly lamp globes, and such things for frosting with a pattern, under the small stream of sand and water, which comes from the funnel. The standing is very tiring, and there is a great deal of slopping. Most of them get wet through before the end of the day; the lower room is the worst for that, it is entirely their own fault, or rather, the fault of the messy slovenly habits they have contracted at home. The breast board does not hurt them. They are paid "by reckonings" as it is called in St. Helens, 5*s.* one week, and whatever they can earn beyond that in two weeks, at the end of the next.

[It is in other words 5*s.* in advance on so much piece work, which generally takes over the week to do; in the collieries they "reckon up" only once in the four weeks, we have it in the alternate weeks.—Mr. S. Bishop.]

Most could earn 10*s.*, if they worked with a will, in every other week, or 15*s.* in the fortnight. Those that do what is called "flatting," get 15*s.* a week. The frosting or obscuring the glass, or rather the mode of producing a pattern on the frosted glass, which is being used in this room, has been recently patented by our Mr. Bishop.

St. Helens is not a very moral place; there are dancing saloons all over the town; nearly every public house has one; the young fellows take the girls there and make them half tipsy, and then there follows what might be expected. I know very well that language, which would show a coarse and depraved mind when used in one class of society, may be merely the result of roughness and a want of refinement in a lower grade; but when the language and the facts

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the habits and mode of life I mean, correspond, as they do unfortunately among these girls, the words give the character.

The boys upstairs in the lamp fitting room are comparatively respectable; most can read and some write; but in the glass-house, where the glass is melted in the furnace pots, and blown or pressed to the shape required, they are a very bad lot. Look at that young fellow, he would rob a man of his kneebone; he is probably the worst; but the habits of all, lads and men, are very bad. Some men here earning 25*s.* and 30*s.*, and some over 2*l.* a week, are not worth a penny at the week's end; they are paid on Saturday, and are off straight to the public, none of their wage finds its way to their family. Lots of the boys never take their wages home; a "taker-in," who will be amongst our youngest, between 12 and 15, will have 4*s.* a week, besides a sum proportionate to the amount of work turned out beyond a certain quantity in the week by the "chair" or set in which he works. I have often had mothers come to ask what their boys had made the last week, as they had seen nought of it.

17. *Joseph Peachey.*—You may call me the foreman of the lamp fitters in Messrs. Bishop's employ. I look after these boys who rivet the chains and make the brass bands and "bucket rings" for the Indian swing or lobby lamp. I say Indian, for it is entirely an export trade, the lamp being quite out of fashion here; but we send out 50 or 60 dozen of them a week, for India, Tasmania, and Australia generally.

It is properly a branch of brass finishing, and has nothing to do with glass works. I don't think such things are made in any other glass works, but here it has been done for 30 years and more; for 22 years I can speak myself, for the last seven of which I have been employed as I am now. There are more than a dozen boys here engaged at this, from 11 to 14 years old; most of them read, they are superior to the glass house lads. We seldom work overtime now; our usual hours are 6 a.m. to 6½ p.m., allowing an hour for dinner, a quarter for breakfast, and another quarter for tea. Three years since we were working till 10 p.m. two or three times a week. Such long hours of course are tiring; otherwise the work is easy. They sit about at tables in any position that suits them. It is all done by hand.

18. *John Clere.*—Am 12. Have been here three or four months. Am a lamp chain maker. We go home for dinner from 12 to 1. Our tea and breakfast we bring with us, and eat it in the workshop. I only go to Sunday school now; used to go to day school before I came to work here; was there for two years. (Reads a little.)

19. *George Rigby.*—Am going 14. Have been here two years. Used to make chains; am now "getting out shade mounts." All our work up here is easy, if the hours are not too long. I have been to a day school, and go to Sunday school now. (Reads tolerably.)

20. *Rowland Needham.*—Am 14. Have been here five months. Was at the Scotch foundry before I came here for six months; there I was errand boy in the moulding shop, and used to take in castings and mix the sand; there were 11 or 12 boys there beside me; I was the least; they were in the moulding and fitting shop and minding the engine. Before that I was for 14 months at the gas works; I used to go about with the gas-fitter, waiting on him. I go to Sunday school now, and went to day school for five years before I began work anywhere. I can read and write. I think I have forgotten sums. Here I am a rivetter. Our hours are a little longer than they were at the foundry, for we used to work there from 6 a.m. to 5½ p.m., but I often stopped till 6 to slack the furnace; still that was much the hardest work of any; I used to get very tired there.

21. *Phœbe Holland.*—Am 17. Have been here two years. Went for a short time to day school when I was little, but had to leave soon and go home to wash and clean. Can't read. This working with sand and water is very wet and dirty work. The breast board is to prevent the sand from splashing upon us off the wheel; we don't lean on it much, not so as to hurt. The standing tires.

22. *Helen Clark.*—Am 19. Have been here only a few weeks. Was, before that, in a mill at Stockport for nine years. Learnt to read as a half-timer there. Liked that work better than this.

[This girl could read well, and was decidedly superior in demeanour, and apparently in general intelligence, to most of her fellows. As she was a stranger, I could not correct my own impression by further inquiry from other persons.]

23. *Elizabeth Massey.*—Am going 17. Have been here four months. Was a fustian cutter for four years before at Warrington, in Welsby's shop; was there when you came to look after us. That was harder work than this frosting glass is. It was so wearying all day to swing backwards and forwards from one leg to the other at the frame. We were working overtime here last week from 6 a.m. to 9 p.m.; I was tired, but not so much as at cutting sometimes.

Have never been to day or night school, not even Heathside school at Warrington; went there sometimes to Sunday school at the parish church. Can't read at all.

24. *James Moore.*—Am going 17. Have been here over three excursions, that'll be about 2½ years. Was before in the warehouse at the Crown Glass Works, Messrs. Pilkington's; I used to go to their school three or four nights of a week. All their young hands have to go three times in the week either to day or night. I go to Sunday school now. Can read middling. My work here is cleaning the moulds for the pressers; the hours are 7 to 7 and no overtime. There are a good many boys in the glass-house as old as me who can't read.

[25. This, according to my subsequent experience, is a slight exaggeration; few however of the glass house boys could read decently. —H.W.L.]

26. —— *Myers.*—I am 22 now. Am the youngest "chairman" in the house. Have been through all the stages. Began by "taking in" at 12 years old. Was a "footmaker" at 16, and then for three years "serving." I am a teetotaller. I often take home over 2*l.* a week. We work here in turns of six hours on and six off. In the flint-glass works generally the pots are always being fed with metal; we nearly empty ours and then refill; but do not do it in a single "journey," as they do in the crown and the bottle works. The boys might perhaps get an hour's schooling in their off times, but what with coming and going twice each way, and getting meals and sleeping, there isn't much time for school. There is half an hour in each turn for meals allowed, but they want more than two meals in the 24 hours. They don't know much, boys nor men, here.

The Eccleston Flint Glass Works.

27. *Mr. Wood.*—I am manager of the Eccleston Flint Glass Works. Our works are much the same as Mr. Bishop's. We have about 20 lads from 12 to 15 years of age; they are a bad ignorant lot, I fear, most of them. We generally fill our pots on Friday night, so as to be ready for working on Monday, and then work eight turns of six hours each, that is the most for each set, 48 hours in the week. The boys are all paid by us and not by the men, the takers in 3*s.* 6*d.* and the stickers up 4*s.* a week. A short time since they all, the boys that is, struck because we were paying one "taker in" 4*s.*; we had to threaten their parents that we would summon them for leaving without giving a week's notice, and that brought them

round; we continue to pay that boy the 4*s.*, but it was very inconvenient for us, while the strike lasted; they are independent enough.

We scarcely employ any under 13; if we did, I dare say we could manage with four relays instead of two, as it is in effect now, but we don't like them very young.

WARRINGTON.

Messrs. Robinson and Bolton.

206 persons are employed here; 19 boys are under 13, 54 boys and two girls are between 13 and 18; of the 131 adults, 11 are females. The youngest is 10 years and 9 months old.

28. *Mr. Robinson.* — The heat and glare of the furnace in the glass house has no ill effect upon the eyesight of the men. The cutters' hands do become cramped. That has been attributed to the putty, but I think it is merely the cold water that causes it. They find the putty gets on their stomach and makes them sick at times. Some go off young, others live to a good old age. A very great deal depends on the workshop; where there is no ventilation it is bad for the cutters; in some small places it is very bad, I know.

We commence work at 6 a.m. and leave off at 6.30 p.m., except in the glass-making department; there the work is continued without intermission by relays or turns of six hours each, by two sets of hands, till the pots are empty, which is usually the case about Thursday morning in each week. Eight boys under 13 are employed there; they take refreshment during their "turn" without leaving off work.

Glass-making could not possibly be left off during the night, nor could the men do without the boys' assistance.

In the cutting department they occasionally work on till 8.30 p.m., but the average of such overtime is less than a month in the year. They leave at 12 at noon on Saturdays. Half an hour is allowed for breakfast and an hour for dinner; those who wish may take refreshment on the premises between 4 and 6.30 p.m. When the cutters are working till 8.30 p.m. an extra quarter of an hour is allowed for refreshment.

[I examined several boys here; one or two of them could only spell out their words; some read tolerably.—H. W. L.]

PLATE GLASS WORKS.

ST. HELENS.

The British Plate Glass Works, Ravenhead.

29. *Mr. Crossley and Mr. Sieveright.* — There has always been a great deal of interest felt in the welfare of the hands employed here, and especially in the education of the young. This place is a sort of colony, the greater number of those employed in the works live in cottages on the premises. There is a large school-room, both for girls and boys, and a master and mistress; the attendance is tolerable, but not what we could wish. The boys' school has been lately recommenced; for some time before this it had been discontinued for want of a proper master. We are now hesitating whether or not to make it compulsory, but on the whole think that will be necessary. Parents forget that when they were children they did not suffer nearly so much from want of education as their children do now; for since that time very much more has been done towards spreading knowledge among the working classes, and a young person, who cannot read and write, goes with a positive disadvantage into the labour market; still there are many here, earning their 2*l.* and 3*l.* a week, who prefer sending out their children to make a little money, to letting them have a chance of a decent schooling.

We think it better for them to pay something; they value the education more, if they give value for it; besides, the parents who pay don't like the money being lost; so they say, "if we have to pay for our "child's schooling, to school he shall go."

Our girls are, generally, fine, healthy, and well-behaved lasses; there is no class of female operatives that surpasses those in plate glass works; there are only six such works in the country; ours, the Union, and the London and Manchester, three of them, being all in this immediate neighbourhood. Ours has been established nearly a century. We haven't many boys on the works, only one under 13; there are four or five in the smoothing room, they will be about 13; some in the polishing rooms and clay sheds, two or three "call" boys in the casting house, and one who assists the grinder by fetching emery; in all 33 under 18. We have 304 male adults, but the older lads from 16 or so work in the sets with the men.

The reason of there being many more boys grinding in the other plate glass works, as you say is the case, is probably that they have not the same machinery that we have; ours moves both the iron runner above, and the plate of glass below at once, and is too heavy to trust with boys; but generally speaking the plate of glass is fixed on a stationary "bench," over which the runner only moves; the surface of the plates ground by the latter process will be 70 or 80 feet, but in ours it may be 400 feet; that surface will in neither case probably be a single plate; a boy can as well throw sand and water over a 400 feet glass surface as over 80 feet, and that is what the boy would have to do, but there might be accidents, so we prefer men.

The hours are tolerably regular for most of them, from 6 a.m. to 6 p.m.; no machinery works just now after 12 on Saturday, but 4 p.m. is our usual time on that day, unless there happen to be a break down; we are bound by agreement among the plate glass works not to make over 66 hours a week, it used to be 48. The machinery does not stop for meals; those employed in polishing therefore get them as they can. The work continues for five days; the "call boys" in the hall, who also sweep and clean up, are the only irregular ones, and they will never be on more than 12 hours; they have to summon the men, when the glass in the furnaces is ready for casting. We ought to be able to cast always at one time, as they do on the Continent, but we have yet to learn that secret; as it is, they may be wanted at any time, day or night; for though they start evenly at the beginning of the week, one set for the day and another for the night, they get jumbled up by the end.

We employ most young persons in the smoothing rooms; all but a few there are women. Out of 146 females in our employ 29 are between 13 and 18; there are none under 13, we don't like taking them very young. Most of those who come under 16 will be "colts," come to help a mother, sister, or friend; we have nothing to do with the colts so far as paying goes; they come to learn, and sometimes they have arrangements among themselves for sharing what the two earn. It is all piece work, some earn 6*s.*, some 12*s.*, some 18*s.* a week; a girl of 16 who was a good worker might earn 16*s.*

We don't like their coming young; we have twice had to send away a dozen girls or so who were too young, 13 years of age or a little more; they would be colts.

There is very seldom any overtime with them; their work is limited by the amount the furnaces can

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produce, and that is only a certain quantity in a certain time. We have indeed too many smoothers; they have at times to wait for the grinding to have finished, when they work up too fast; there are times when to complete an order unusually pressing we may use up some glass that is in stock and run the machinery a few hours over; then the smoothers too might work longer, but we generally keep the boys for that; as a rule there are few trades with so steady a demand and so little liable to sudden exigencies as ours. The smoothers often give over by 4½ p.m.

The red polishing matter is burnt copperas or sesqui-oxide of iron; it is not injurious, though it gets all over them, and indeed into them at last, for the men tell us that they often find on a Sunday afternoon a complete deposit of it on their skin, though they have had a thorough wash in the morning.

We have no objection to our hours being limited to 10½, but they cannot be within a fixed time. Owing to the immense heat of our furnaces we cannot let them out; as soon as the bricks cool they crack in all directions; so if a furnace does go out we have to pull it down and light a new one, unless it has been working only a very short time; this, and the irregularity to which I have already alluded in the time of casting, make a prohibition of night work impracticable; at the same time our practice of working in sets renders overtime in that department, the casting hall that is, impossible.

We must also be allowed to work at night, and overtime in the event of a break down to the machinery, such as happened for example last year in our polishing rooms; we have 35 benches there, but by an accident of that kind were reduced for two months to 11; during the whole of that time therefore we had to work in shifts or relays night and day, in order to keep up with the other portions of the works, where the ordinary supply was being produced in ordinary hours of labour.

30. *Elizabeth Ashcroft.*—Am 15½ years old; shall have been here two years next May; am a smoother; that is what all the girls are. Our hours are from 6 to 6, and sometimes to 7; we are not once a month as late as 8 p.m. It is very hard work; we have always to kneel on those large plates to do the middle part, the sides we can do standing; our knees get very wet, but we change when we go home; no harm seems to come of it.

31. *Louisa Pennington.*—Am 17; have been six months smoothing; was at coal-pit-brow riddling* for two years before that. All that Ashcroft has told you is right; this is much better than the other work; there our hours were from 6 a.m. to 5½ p.m., but it was harder; besides when we had a deal to do we often worked all night; two or three nights a week I have worked all night. Can read a bit.

32. *John Fryer.*—Am a smoother; was 13 last September; have been here seven months; in that time stopped only once as late as 9; that was to meet the machinery, which was working overtime as we were short of glass; have sometimes stopped till 7 p.m.

Union Plate Glass Works.

33. *Mr. Yates.*—I am the manager of these works. Our hours are from 6 a.m. to 6 p.m. for all but those employed in casting, and those are all men. We have perhaps once a month to keep some as late as 8 p.m., grinding, or smoothing, or polishing; those are the processes at which our younger ones are employed. We have 7 boys and 4 girls under 13; 68 lads and 59 girls between 13 and 18; 315 men, and 87 women. The females are all engaged in the smoothing process. That is all hand work. All the younger ones are "colts," come to help a bigger girl or woman; they sometimes are too numerous for order, so we have to send a dozen of them off at once. They are not in our pay. It is wet work, but they get no harm. They will earn 4*s.* or 5*s.* at first. The boys are put to the grinding machines to begin with, and are promoted by degrees. They commence at about 12 or 13 years old. The younger ones are taken out of charity. They get wet too at grinding. They have to scatter the sand on the surface of the glass that is being ground by the machine. The grinding machines do not stop for meals, but after each sand grinding process, which will take about five hours, they are ground again with emery for about an hour and a half. The boy has nothing to do with that, so in every 6½ hours he has 1½ hours for meals and rest.

I think that most parents but the very lowest give their children some education now; still, it would be very hard on many, orphans, for instance, to make them produce some certificate of attainments, however low, before they might be employed at all.

You may take it generally that the main features in our works correspond with those of the British Plate Glass Works at Ravenhead. We have boys and younger lads at the grinding machines; that is the chief difference. If you make those of them and of the smoothing girls, who are under 13, half-timers, we should probably take none of that age. However, as to the smoothers, they are paid by the piece, and none so young as 13 by us, I should say.

[34. I inquired of 18 girls and boys in these works, and learnt that four, two of either sex, were unable to read at all, and one other, a girl of 18, scarcely knew her letters; of the rest, six or seven read tolerably.—H.W.L.

CROWN AND SHEET GLASS WORKS.

ST. HELENS.

Messrs. Pilkington.

35. *Mr. W. Pilkington.*—The evidence which you have read over to me is in the main correct. We employ, one way and another, a large number of hands, at the present time over 2,000 in all; there are 134 boys under 13, and 132 lads from 13 to 18. The number of women and girls I cannot give you accurately; they are at the factory and Eccleston, and are chiefly smoothers. There will be over 150, I should say. About 100 of the lads are bound apprentices to us.

We have always tried to do what we could for our hands in the way of giving them opportunities for recreation and improvement. We are just fitting up a reading room for them to use in the winter; they will have billiards, and draughts, and other games there, conveniences for washing, and a refreshment bar for tea and coffee and light drinks. In the summer they have a cricket ground, where they can also play at bowls and skittles.

36. *Mr. Johnson.*—I am the master of the school which Messrs. Pilkington have established at their Crown Glass Works, St. Helens, for the younger hands in their employment. The school has been in existence for 12 years. I have been here since last Christmas, nearly a year; before that I was for five years master of Messrs. Schwabe's school at their large print works near Middleton.

I am all day long either here in school or about the works looking after the boys, so, as Mr. W. Pilkington just said to you, I dare say I can tell you as much about the boys' employment as anybody, for I make it my business to know and to understand all about it.

All the lads up to 17 years of age have to come to

* A sort of screening process.—H.W.L.

School three times a week, whatever branch of the business they are in, so we have them not only from the glass-houses, as they are called, where the furnaces are, that is, and where the majority are at work, but from the warehouse, the crate-makers, and all the incidental occupations, so to speak, about 260 in all. There were 80 who could not read when I first came, and who are now in the first "Irish" book. I found them very unruly and irregular; they had not been properly managed by my predecessor. Nothing is or was paid by them in the shape of school fees, but there was a penny fine each time that they missed one of the three necessary attendances without good excuse; and the fines when I first came were amounting to from 25*s.* to 30*s.* a week; now they don't exceed 1*s.* They go towards books for the library and other expenses.

I got them into this good attendance by making it a point of honour with the different "houses," of which there are 10 working at present, to have the fewest absentees. They used to duck all who went to school, but now they "rundle" any one who don't; that is, put him in a ring of them, each of whom pulls his hair.

The great thing was to get the help of the managers. Each house has a manager over it, and they are all with us; they see that the boys come to school, or will "know the reason why." Every manager is required by Mr. R. Pilkington to come here once a week and examine my entries of attendance.

The boys who are engaged in the daytime, those in the warehouse, and elsewhere other than the glass-houses, come to night school three times a week from 6 to 7 a.m. or a little past. With the boys in the "houses" we have to contrive our hours so as to suit the times they come off work, for those times vary, both in different houses and in the same on different days. The average is from 10 to 12 hours' work, and then a break of about 30 hours, that is four journeys a week, so that they have four opportunities of going to school. There is, however, a class of lads, 20 in all, called "pushers," working in the "houses," whose hours depend a great deal on the men, the "flatteners," for whom they "push." The flatteners' work depends partly on themselves, and partly on the rate at which the cylinders which the blowers produce accumulate. Among them there is no system, and they work one time 8 hours on and 8 off, and another over 12 hours, and sometimes at night, sometimes in the day; so we have to manage as we can. These "pushers" are the worst boys of any; that I think comes from their being thrown more into the company of the man under whom they work, alone with him, instead of mixing, as the rest do, with boys like themselves. They shift from week to week by turns, working two turns together at the end, so as to make the change; and those that worked between 8 a.m. and 8½ p.m. one week take the night-work for the next, so far as they can. This is only the case with the pushers. I believe they work 12 hours at a stretch only when, as now, there is a "kiln down," and some of the others have to make up the time lost through that. These pushers, who are here now, have come straight from work to school; that is what makes them so dirty. I have told them they may have half an hour for the future to go and wash their faces and hands. They began work at 8 p.m. last night, and left off at 9 this morning (Monday).

They are often very tired when they come after a long turn; I have seen them fall asleep at the desk; I send them home then generally; that boy Roden I have seen fall fast asleep in five minutes, but when I wake him up and tell him to go, he won't; he likes learning, but he is the exception among "pushers."

Lads will earn from 3*s.* to 4*s.* 6*d.* a week; the firm pays them; the men are paid by the piece. Several of our houses are not working now; of those that are, six are sheet and three crown houses; besides these, there is one, No. 8, where they are all either boys or apprentices, that is the "shade" house; the apprentices, who are learning to become blowers of the cylinders, which are flattened, as you saw, into sheets, practise the process in making glass shades for clocks and such things to keep the dust off; the apprentices are usually from 14 to 21 years old. There are 12 boys there.

In the sheet houses, where boys are chiefly employed to help the "blowers," there are 88 under 13, and 71 between 13 and 18; most up to 15 or so are block minders and hold the pontil or pipe, shift the crane, pour water to cool the metal, and have generally to help and be all eyes and ears. The youngest are shovel holders, and have to hold a shield to keep the flame from the eyes of the men, who "gather" the metal from the furnace pots. The "splitters" also, who split the cylinder preparatory to its being flattened into the sheet, have each two "carriers off," who are boys of 13; they are on work when the "houses" are off.

In each crown house there are eight boys either shovel holders or block minders. The warehouse boys cut the glass into squares of the requisite size and pack; there are 30 of them, 16 under and 14 over 13. Then some 20 work at making the boxes and crates and the pots in the clay sheds. At Eccleston too there are seven; there the rough plate is made by casting and rolling; they are chiefly polishers; two are under 13. There are 12 boys in what we call the factory; that and the Eccleston work is day work; they assist in the polishing, scattering the emery and water over the surface of the glass; red lads we call them, for they are red all over, just as millers are white, and make every thing they touch, forms and books, red too. Only two are under 13. In both the last-mentioned places a large number of women and girls are employed in smoothing, but I know nothing of them.

My experience of the working of the Print Works Act, so far as education is concerned, is decidedly unfavourable; the effect of the 30 days attendance at school being allowed to be at any time and after any interval during the half year "together or separately," (8 & 9 Vict. c. 29. s. 23.,) as the clause runs, is ruinous. I may say that my services for five years at Messrs. Schwabe's school were not worth 5*s.* and yet I worked hard, and so did the lads many of them; and there too there was some regularity, for they used to come on Monday and Tuesday in every week; but nothing came of it; by the next week all they learned was forgotten, and the ground had all to be gone over again.

It is the same here to a great extent with the pushers, but that can't be helped, for the flatteners must finish off what the blower makes, or else the glass houses would be choked, and could not go on working; but the amount turned out in a given time by the blower, depends on various accidents, breakage of pots being no infrequent one; and the pusher is very important to the flattener, a good pusher will work like a machine, and cannot be spared till the work is all over; nor can he have a substitute for part of his time.

Very many of the pushers come of bad parents; there is one, 12½ years old, who has been on these works more than three years, and does not know more than his letters; he has a bad father; there is another of 16, who only knows his letters; this one's father is a confirmed drunkard and poacher. Still there are exceptions; I have three very good lads, pushers, who are fair scholars, and well behaved.

37. *Mr. Holt.*—I look after the Eccleston works and the "factory" for the Messrs. Pilkington; the latter was once a cotton mill and keeps its name, but we don't "make" any thing there, only smooth and polish. A large number of women and girls are employed in smoothing; they have not to kneel on the lower plate, as they do in the plate glass works, for our plates are much smaller, and they can reach any part as they stand at the sides.

We only employ those of about 17 and upwards; there are a good many under that age, some only going 15, as you have found out. I thought none

Lancashire Glass Works.

Mr. H. W. Lord.

r.

were so young; but all those are what we call "colts," they come to help a mother or a sister and to learn the work, and after a time, as they grow and we see they work well, we take them on ourselves; some will get paid a little by those they help, and as they get on, two will work together, one of whom perhaps is paid by us, and they agree to divide earnings. Those two girls are between 16 and 17; they will earn 14*s.* or 16*s.* a week together, but it is all piece work, and a great deal depends not only on the speed with which they work, but also on the judgment; they will often spoil what they have done by going on too long.

It was at this polishing machine that the accident happened to the boy you were mentioning; it is scarcely conceivable how he got there at all, his place was along the side of the glass that was being polished by those soft rubbers, where he should have been putting that red stuff on from time to time, but he got away to the back of the machine where the large wheels are, and though the arms, which work the rubbers, form, as you see, almost a fence to the cogs, which are all within them, he managed to put his finger in. Accidents are very rare.

38. *W. Hall.*—Am going 14; don't know my birthday; have been three years here; was a "pusher" for two years, and am now a block minder; the work I now do is hardest; though I was perhaps longer at it before, I have now to run about more. First I heave the jigger on, that holds the water to cool the blowers' pipe, then I turn the metal on the pipe in the furnace; then I put a bit of hot metal on to the end of the blown glass and cut part off again with shears; that is to open the bottom and make a cylinder of it, for it was round before; then the blower puts it on the chevalier, that's a wooden board with four legs, and we get the pipe away for another blow.

The pushers get their hands cut about a good deal by the edges of the glass in lifting the cylinders on to the flag for the splitter; most have scars on their hands. I had plenty, but they have been healing for this last year since I left pushing.

39. —— *Gaskell.*—Am 12 years old; have been here 18 months; was two years at day school before. Am block minder; we are about 10 hours on and 24 off, that is the journey; but we boys always get called about three hours before we start with the men, for we have to sweep up and get ready for them before they come; we could do it all in one hour if we liked, but we like to play in that time; we are called at all times, night and day; the "teazer" or furnace man goes round the town and calls every boy in the "house," when the furnace of that house has heated the metal in the pots enough to start working in about three hours. He comes to the door at home, and knocks and calls "Gaskell," and then, if it's night, my father looks out of window, and the teazer say "No. — called;" that is the number of the hous so I get out of bed and go off.

40. *William Dombul.*—Am 11; have been here tv years; am block minder; used to go to day schoo am not so very tired after a "journey;" generally g off straight to bed from work.

41. —— *Mather.*—Am 12; have been here tv years; am block minder in No. 10 house. There are block minders and one extra one, four shovel holde two pipe putters up, two takers off, and four pushe Those are all the boys in our house. We get mea when we can, "bite and sup" we call it, but there always a break of about half an hour in the middle a journey to feed the furnace, yes, and to feed ou selves too. I was going three years at day scho before I began here.

[These four witnesses were all fair reade Dombul spelt, and knew his multiplicati table, very well.]

42. *Job Preston.*—Am 16; have been here thr years; have lost my right arm, and can write with n left hand; it was by an accident, but not in any work that my arm was hurt; accidents have sometim happened to the boys in the polishing room. The is a small boy with only one arm; it was mere car lessness with him; he put his finger between the c wheels while the overlooker's eyes were off, and g his arm drawn in. That was up at Eccleston Works

Before I began here I was at a watchmaker's Prescot; there are a number of watchmakers the and a good many boys employed at it. Some begin 10 years old; I did not till 12; they drill holes the wheels. I used to work from 7 a.m. to 8 p.m it was not hard work.

43. *John Forber.*—Am going 14; don't know in wh month my birthday is; it is some time about Newt Races. Am a block minder; have been here tv years; was at day school two years before that, b didn't learn much there; didn't know how to read t I came to this school; can't read so much now.

44. *G. Lomax.*—Am 16; have been here six year was "taker off" two years; now mind block; get for that; used to get only 3*s.* Don't like working night; would rather work on Sunday than at nigh Can't spell my name. Father is a pit sinker; have mother, but a step-mother.

[Mr. Johnson told me that this last witne had always been a backward child, and w very frightened of everybody; this w attributed to his ill-treatment at home. H did not however answer my questions such a way as to lead me to think him hal witted or more than neglected.—H. W. L

Messrs. W. Stock and Co., Crown Glass Works, near Leigh.

45. *Mr. Gray* (manager).—We have 4 boys here under 13, the youngest is 11; there are 18 between 13 and 18. The two females merely sweep up. They are grown women. Our male adults are 54. Eight of the lads work from 6 a.m. to 6 p.m., with an hour and a half for meals; they are not in the glass making department. Those that are work in journeys of about 8 hours; there are four journeys in the week; the time of their commencement and their length depends on the state of the metal in the pots. The pots hold about 30 cwt., and that is worked through in about eight hours; sometimes it may be 10 hours. They may have to begin the week's work at 10 on Sunday night, or not till 6 on Monday morning; so far as we can take an average, the first journey will begin at 3 a.m. on Monday and go on till 11 or 12, then they will be off till 6 p.m. on Tuesday; the second journey will last till 2 or 3 a.m. on Wednesday; the third begins at about 12 on Thursday, and the fourth at 6 a.m. on Saturday. Those under 13 are in this department. They can manage in all crown glass works to get to school on some week days here they have two or three half days and all Friday Ours all go several times a week. In the cutting department, where they work only in the day, the don't come till 7 a.m., and they leave at 5 p.m. on t Monday and at 2 p.m. on Saturday. The lads the go to a night school five times a fortnight. "Cutting with us is merely cutting the circular discs of gla into the requisite sizes, and not, like the flint glas grinding and polishing.

Glass blowers have a bad name for drunkenne I have made the major part of our men sober, for will allow no drink to be brought on the premises. great deal might be done by employers and foreme in that way if they chose.

The boys are hired and paid by us, and are und an agreement, but not regularly bound; they earn 6 and 8*s.* a week, but some at 16 and 17 can do men work and get 1*l.* a week. Arsenic is used as a flu instead of manganese, but only in small quantities.

I have been in the business for many years, a

* See No. 37, supra.

have worked in it myself, and never found anything unhealthy about it; indeed, I am now teaching my own son. The men pay 1*s.* a fortnight to the sick fund, and draw 24*s.* out, or very nearly, at the end of the year.

I have adopted several simple contrivances for getting rid of the boys' work; for instance, a mechanical jigger with a plentiful supply of water stands at each corner of the "house." It is no more than a pipe with holes, moving on a hinge over a tub of water. Then there is an iron "thimble holder" for the blower to rest the end of the glass against, instead of a boy kneeling opposite him. They do away with a deal of cursing and swearing and knocking down, which didn't do anybody much good. The boys often deserved it, and weren't hurt much perhaps, but they are better without it.

In the blowing the boys will be working rather longer hours than the men, for as soon as the metal in the pot is ready they are called, and have to go and call the men; but the boys' work is not hard.

46. *Mr. Rigby.*—Before I came here, I was among flint glass cutters. I never knew of any case of "drop "hand" among the young men. It is rare at any age. I think it is the pressure of the hand against the wheel, and not the white lead of the putty that produces it. The amount of lead is very small.

BLACK BOTTLE GLASS WORKS.

ST. HELENS.

Messrs. E. Lyons and Sons, Peasley Glass Works.

47. *Mr. Lyon.*—Ours is a fair type of the black bottle manufacture wherever it is carried on, I believe. There are a good many scattered about in different parts of the country. Messrs. Lightfoot's is the only other one in St. Helen's; that is about the same size as ours, and managed in much the same way. We have five boys under 13, and seven between 13 and 18; there is also one girl under 18 in the warehouse, and 29 male adults. What Hayes has told you of the hours and kind of work is quite right.

The men and boys work together, and at the same time; the hours for beginning work vary from day to day; they are called to work at all times of the day or night according to the time the metal takes to melt in the furnace pots, and then they work on sometimes 8 and sometimes 12 hours, but never longer than that, until the pot is emptied.

I think there is a marked improvement in our bottle hands of late years, both in men and boys; the old men who could not read and write have died out, and now workmen are ashamed if they cannot. It is not the result of any special effort in our trade, but of the general tendency of society to promote and encourage education. Still the children are not yet properly reached; what has been done has been chiefly by means of study as adults, in mechanics' institutes, &c.; however, I think a good number of the younger children in St. Helen's go to school in the day time. In our own works some considerable influence is exercised by our foreman, who is a religious man, and teaches in Sunday school himself.

48. *Thomas Hayes.*—I am the bottle sorter; have been here five years; came first as carter; used to be a farmer up at Rainhill; that's hard work at times for boys, is farming. I've been out in spring as a lad from 4 a.m. to 9 p.m., but then it's open air, and they mostly get plenty to eat in the farm houses about here, and they do eat too; so I prefer farming to this for men and boys as well.

I have three boys who "draw" for me, that is, take the bottles out of the drying-kilns, and pile them in barrows for me to wheel away here. They will sometimes burn their fingers, but there is never much harm done. They work from 6 a.m. to $5\frac{1}{2}$ p.m., and sometimes leave before; on Saturdays always at 4 p.m. They earn about 2*s.* 7*d.* a week; the other boys are rather older than these, over 12 I should say; they "take in" or "wet off," and get 6*s.* a week, besides extra for all beyond a certain number. They work by journeys about 12 hours on and 16 off, 5 journeys a week, starting with their first journey at about 2 a.m. on Monday. Perhaps they will run 10 on and 18 off more often. They have half an hour for each meal, breakfast, dinner, and tea, and take them in the "house." Sometimes they are longer than at others; the younger ones get very tired, when they are long about, and some of them come two miles to work. The work is neither hard nor dangerous; the wetters off have merely to drop a little water on to the neck of the bottle, when hot, to make it break off from the pipes.

49. *Peter Ashall.*—Am 10; began at this work before I was 8. I "draw" bottles for Hayes; have always done that, and worked the same hours as now, 6 a.m. to $5\frac{1}{2}$ p.m., and now and then we have earlier leaving off, 3 p.m. sometimes. Can read. That boy's older than me, and he didn't know what t-h-e spelt in big letters when you asked him.

I also visited Messrs. Lightfoot's bottle glass works at St. Helen's, and Mr. Cartwright's at Warrington, and received there information similar to that above given.—H.W. L.

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FOURTH REPORT

OF

THE COMMISSIONERS.

WITH APPENDIX.

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1865.

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ON

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BEING

(IN CONTINUATION OF THE REPORTS OF THE LATE GENERAL BOARD OF PRISONS)

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TO THE RIGHT HON. SIR GEORGE GREY, BARONET,

ONE OF HER MAJESTY'S PRINCIPAL SECRETARIES OF STATE.

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FOURTH ANNUAL REPORT

OF

THE MANAGERS APPOINTED UNDER THE PRISONS (SCOTLAND) ADMINISTRATION ACT.

TO THE RIGHT HON. SIR GEORGE GREY, BARONET,

One of Her Majesty's Principal Secretaries of State.

11, Melbourne Place,
Edinburgh, 10*th February* 1865.

Sir,

We have the honour to lay before you our Fourth Report, under the provisions of Section 60 of 'The Prisons (*Scotland*) Administration Act 1860':—

Statutory directions for Annual Report to Secretary of State.

In that Section it is enacted, that 'the Managers shall, on or before the 15th day 'of *February* in every year, make and transmit to one of Her Majesty's Principal 'Secretaries of State a full Report of their whole proceedings during the year ending 'on the 31st day of *December* preceding, and an Abstract of their whole receipts and 'expenditure, classifying the separate articles thereof; and in the said Report, or in 'the Appendix thereto, there shall be set forth all new rules or alterations of rules for 'Prisons which shall have been made by such Secretary of State as aforesaid, any 'orders issued by such Secretary of State constituting a new Prison or altering 'the classes of prisoners for which a Prison is legal, and such information and statistics 'regarding Prisons in *Scotland* as such Secretary of State may require; and a copy of 'every such Report shall be laid before both Houses of Parliament within fourteen 'days after the 15th day of *February*, if then assembled, or if Parliament shall not be 'then assembled, within fourteen days after the next meeting thereof.'

The Managers.

The Managers consist of the Sheriff of Perth, the Inspector of Prisons for Scotland, and the Crown Agent in Scotland, all *ex officio*, along with one person appointed by Her Majesty to be Stipendiary Manager and Secretary to the Managers.

CUSTODY OF CONVICTS AND MANAGEMENT OF THE GENERAL PRISON.

The General Prison for Scotland at Perth contains a Prison proper, or Penal Department; and an Establishment for the Criminal Lunatics of Scotland, or a Lunatic Department.

The Classes of Prisoners admitted to General Prison.

The Penal Department is constituted for the reception of—1*st*, Prisoners sentenced to imprisonment by the Courts of Law in Scotland. Such prisoners sentenced to nine months' imprisonment and upwards, are removed from Local Prisons to the General Prison, under the statutory powers of the Managers, unless the sentence contains a clause specially declaring that the prisoner shall not be removed to the General Prison. Prisoners sentenced to shorter periods can be removed to the Prison by the Secretary of State under his statutory powers, should an occasion occur for the exercise of these powers.

Sentenced to Imprisonment.

Convicts.

2*d*, Convicts under sentences of transportation or of penal servitude. These are removed to the Prison by order under the hand of the Secretary of State.

Criminal Lunatics.

The Lunatic Department is constituted for the reception of—1*st*, Persons who, by judgment of the Criminal Courts, have been placed at Her Majesty's disposal on the ground of insanity, either at the time when they committed the offence charged against them, or at the time of trial; and

2*d*, Prisoners who have become insane while undergoing punishment.

A portion of the County Prison of Ayr is at the Secretary of State's disposal for the reception of Female Convicts.

App. Nos. VI. and XIX.

Referring for more full particulars to the Appendix, the following Table sets forth the distribution of the accommodation at our disposal, and the manner in which it was occupied throughout the year.

GENERAL PRISON.

Penal Department.

I. Accommodation—

	Males.	Females.	Both.
Cells,	346	377	723
Dormitories,	...	18	18
Average Occupation of Hospitals,	8	18	26
Total,	354	413	767

II. Occupation—

	Prisoners Sentenced				Both.
	To Imprisonment.		To Transportation or to Penal Servitude.		
	M.	F.	M.	F.	
At commencement of the year,	261	131	74	217	683
Admitted during the year,	211	133	108	55	507
Total,	472	264	182	272	1190
Disposed of during the year,	254	132	99	54	539
In custody at the end of the year,	218	132	83	218	651
Daily average throughout the year,	242	125	79	212	658

Lunatic Department.

I. Accommodation—

	Males.	Females.	Total.
Apartments for	33	13	46

II. Occupation—

	Inmates.		
	M.	F.	Both.
At commencement of the year,	20	12	32
Admitted during the year,	7	1	8
Total,	27	13	40
Disposed of during the year,	2	2	4
Inmates at the end of the year,	25	11	36
Daily average throughout the year,	22	12	34

PRISON OF AYR.

I. Accommodation at the disposal of the Secretary of State for Female Convicts.

Cells,	99

II. Occupation—

At the commencement of the year,	66
Admitted during the year,	72
Total,	138
Disposed of during the year,	46
In custody at the end of the year,	92
Daily average throughout the year,	81

We append, according to custom, Reports by the chief Officers of the General Prison down to the close of the year, referring to them for information on the following particulars, viz. :— Reports by Chief Officers.

To the Governor's Report for information on— App. No. VI.

The adjustment of the Staff, and the conduct of the Officers.
The general Statistics of the Establishment.
The Discipline of Prisoners.
The Labour of Prisoners.
The Industrial Training of Prisoners.
The Exercise of Prisoners.
The Conduct of Prisoners.
The Receipts and Expenditure, and the relative Cost of the Establishment. App. No. XIII.

To the Chaplain's Report for— App. No. XIV.

The Religious and Secular Instruction of Prisoners.
The Educational Statistics.
The Prospects and Condition of Liberated Prisoners.
Re-imprisonments and other matters bearing generally on the Moral influence of the Discipline.

To the Resident Surgeon's Report for— App. No. XV.

The Health, mental and bodily, of Prisoners.
The Illnesses, and their Causes and Treatment.
The Deaths.
The Management of the Lunatic Department.
The Management of the Hospital Department.
The general Sanitary Condition of the Establishment.

The Appendix also contains—

1. An analysis of the ages, with reference to their respective sentences, of all the prisoners who were, during the year, in the Prison, exclusive of the Lunatic Department. App. No. VII.
2. Table of the number of prisoners received during the year from each county in Scotland. App. No. VIII.

The condition of the Staff throughout the year has been eminently satisfactory. In the year 1862 you were pleased to carry out an arrangement by which the Salaries —chiefly those of the Warders—were improved, so as in some measure to modify the contrast between their emoluments and those obtained by subordinate Officers in other Government Prisons. We believe that this change has had a beneficial influence in bringing persons of activity, zeal, and character into the service. Excepting one chief Warder, and one sub-matron, there are no intermediate grades between the heads of the Establishment and the ordinary Warders. Without questioning the policy of a different practice elsewhere, the Managers believe that in the General Prison this arrangement is conducive to good discipline, as it certainly is to economy. Staff.

An analysis of the Staff as at the end of the year is appended. You were pleased to approve of the Steward, Mr. Peter Cruickshank, acting as Deputy-Governor,—an office which he undertook without addition to his existing emoluments,—and the Governor has expressed his great satisfaction with the practical results of this arrangement. The only other changes in the Staff during the year were of a trifling kind, made in order to adjust it to the relative numbers of Male and Female Prisoners, and to the enlargement of the Lunatic Department. These changes are specified in the Governor's Report. App. No. IX. App. No. VI.

At the end of the year the new National Establishment for the Criminal Lunatics of Scotland was completed. It is closed off from the Penal Department of the Prison by a high wall. The male and female sides are so divided that the inmates of the one cannot see those of the other in the airing-grounds or otherwise. The windows and the airing-grounds overlook the scenery of the Tay and its banks. Each side has a small airing-yard, and each airing-yard has a door opening on a piece of ground, covering about five acres, and sloping to the Tay. This ground is available for male and female lunatics in their turn, and is at other times open to Female Convicts in advanced stages of discipline, care being taken that while walking in the grounds they are not visible to the Lunatics. Buildings. Completion of Criminal Lunatic Department.

In estimating the suitableness of the site, and in the structural alterations and fittings, the Managers have endeavoured implicitly to follow the principle laid down

by those who have the chief authority and responsibility in the treatment of the insane, that there should be no specialties but those consistent with security in the treatment of the class called Criminal Lunatics. When you intimated your approval of the new arrangement, you instructed us to communicate with Her Majesty's Commissioners in Lunacy for Scotland, 'with the view of securing such recent improvements for the accommodation of the Lunatics as the circumstances may admit of;' and the Managers have to acknowledge the valuable aid which they received from those gentlemen towards the desired object. It is believed that this establishment for the Criminal Lunatics of Scotland, while its structure and the immediate vicinity of a large Prison staff, give it more than usual security, will be found to have no more of the penal character of a Prison than any ordinary well-constructed Asylum for the Insane.

Proposed changes in the use of buildings.

The structural conditions of the General Prison have all along been influenced by the fact that it was originally a Prison or Depôt for Prisoners of War during the war which ended in 1815. Large portions of the original buildings have been removed, but others remain, though their structure is by no means consistent with the character which it would have been proper to impart to new buildings intended for the purposes for which these have been used. The Main Prison, consisting of four large Wings radiating from a centre, was built under the direction of the late General Board. In front of it, and within the wall, are two buildings which were used as hospitals for the Prisoners of War. These are oblong buildings, each with a transept or double wing at either end, so that each presents twelve surfaces or wall plates. Connected with them are walls of a like varied character bounding a military way, and the whole affords abundance of places of concealment and of irregularities apt to hide deficiencies.

One of these buildings hitherto used as the Department for Criminal Lunatics, being no longer required for that purpose, arrangements have been adjusted, with your sanction, for converting it into Officers' houses.

The other of these buildings contains the Hospital for Male Imbeciles, the Hospital for Male Epileptics, and the Prisoners' washing-house. For reasons to be afterwards stated in connection with the discipline of the Prison, the Managers propose to accommodate the Male Epileptics and Imbeciles in separate compartments in the Main Prison.

The Bakehouse being, in consequence of a change mentioned further on, also at their disposal, they propose to use it as a prisoners' washing-house, and thus entirely vacate the building above referred to. The Wall of the Prison will thus be drawn within the two buildings, which formed the Hospitals for the old depôt for Prisoners of War—a change which will greatly improve the security of the Prison by bringing all parts of it under easier inspection.

We have recommended that this second building should, like the other, be fitted up for Officers' houses. In a place where there is no large Police force easily available, it is of great consequence that the Officers should live close at hand. Although the subordinate officers are a very well-conducted class, it is favourable to the maintenance of their social condition that they should live outside the town of Perth, and near the abodes of the superior officers.

As an attraction to them to spend their time rather in the vicinity of the Prison than in the town, the Managers have suggested the establishment of a common Reading-room for their use.

A common Washing-house for the convenience of the Officers' Families is the only other considerable structure which it is proposed to carry out.

Prisoners and Discipline.

It will be seen by the definition at the commencement of the Report, that the General Prison differs from the other Convict Establishments of the empire in receiving Prisoners under sentences of nine months and upwards, as well as Convicts sentenced to Penal Servitude. It is at present used for male Convicts during the period of probation and separation—that is, the first nine months of their sentences. The state of accommodation at the Public Works' Prisons has sometimes postponed their removal for a while after the expiry of the period; and, in these instances, to avoid affording any ground for complaint that faith is not kept with them, we have endeavoured to put them in association, so far as the nature of the premises supplies the means of doing so.

Female Convicts are detained in the Prison through all stages of their discipline. Protestants alone are first received into the Prison of Ayr, and are transferred to Perth when it is necessary to make vacancies for new convicts. The Roman Catholics are sent to Perth direct, as there is there a stipendiary visiting Priest.

Female Convicts.

We have made no material alterations in the discipline of the Prison during the

year, waiting to receive your instructions as to the future arrangements to be presently referred to. Referring to our fulfilment of the direction in the Act to see and converse with each prisoner once a month, we made in our last Report the following observations :—

'What chiefly struck us under these opportunities was the good influence which a feeling of security, as to their claims and prospects, exercises on the behaviour of Prisoners. When it has occurred, as it sometimes has, that a class of Prisoners can be told no more than the fact of their disposal being still under the consideration of the higher authorities, they have generally been found patiently to wait the issue. When, however, owing to any accidents in the re-arrangements of the remission of sentences by license, Convicts had formed expectations which they find are not to be realized, they become restless and suspicious, and necessitate precautions against turbulence. In the case of associated Convicts the news of some such disappointment spreads suspicion among the rest, and more mischief may be done by a single instance, in which there is the slightest ground for pleading breach of faith, than the best devices of Prison discipline can repair.'

The experience of the past year has tended to confirm this view. We have never been in a position to be so little explicit as to the amount of remission which Convicts might expect, and, at the sametime, have never seen so little irritability or restlessness among them.

New Act on Sentences of Penal Servitude and Remissions.

On the 25th of July an Act was passed "To amend the Penal Servitude Acts." Its most material provisions are, 1st, In the punishment of all crimes committed after the passing of the Act, the minimum period of penal servitude to be awarded is five years, instead of the previous minimum of three years; and if the convict has been previously convicted of any crime, the minimum is seven years. 2d, When the holder of a license (commonly called Ticket of Leave) is convicted of an offence, the conviction in itself involves a forfeiture of the license. 3d, Each convict going to a police district must, within three days, personally appear before the chief of the police, and before going to another district must notify the intended departure; and each male convict must appear before the chief of police once a month. On conviction of failure, the license is forfeited. 4th, A license-holder failing to produce the license when demanded by a magistrate or police officer, is punishable by imprisonment not exceeding three months, and liable to revocation of license. 5th, When a license is forfeited or revoked, the convict is liable to serve the full period of sentence to run at the time of granting the license, instead of the period after its revocation merely, as formerly.

New arrangements for earning release on license.

After the passing of this Act, you issued new scales of remission to supersede those previously in force, along with a new scheme for testing the convict's claim to the benefits of remission. In the case of male convicts, these arrangements apply solely to their conduct during the period when they are at public works; and as during the past year there have been no convicts on public works in Scotland, and male convicts have only been detained in this country during the first nine months spent in separate confinement, it is unnecessary to go into the details of these arrangements in the present Report. It is understood that the new arrangements for estimating the claims of male convicts for license, are now matured and put in practice in England. No arrangement has been specifically adopted for carrying out the same principle towards female convicts; hence in their discipline we have to report no material change as having occurred during the past year, or likely immediately to come in force. It may suffice, therefore, to say, that the new scale of remission for female convicts is to be a maximum of precisely a third of the sentence, instead of a scale adjusted on the principle of approximation to a fourth, like that previously in use.

Health.

The number of deaths in the General Prison during the year was fifteen, or 2.16 per cent. on the average number of inmates. This is considerably above the usual mortality there, but the excess is owing to incidental causes. The health of the Prisoners in general was excellent, and stood in marked contrast with that of the city of Perth, where there was much disease during the year. For the specialties of the sanitary condition of the Prison, the Managers refer to the Report of the Resident Surgeon. App. No. XV.

Male Imbecile and Epileptic Department.

It has been stated that we propose to alter the arrangement for the separate accommodation of Male Imbeciles and Epileptics respectively. From an early period the late General Board had found that a class of Prisoners whose minds are affected not to the extent of absolute insanity, should be relieved from the influence of the separate discipline, and put in association, as the best means of protecting them from further mental deterioration; and hence they established a separate hospital for this class. It has been found necessary, however, carefully to attend to the manner in which such an establishment is occupied. Prisoners will endure a great deal by feigning sickness or imbecility to get into association, and there are many inconveniences from

any lax dispensation with the established principles of discipline. The selection of occupants for the Imbecile Department having been lately made with much caution, the number of inmates has become so small as not to justify the maintenance of a separate establishment outside the Main Prison. Sufficient accommodation, of the special kind suited to their respective conditions, can be found within it both for the Imbeciles and the Epileptics.

Industrial Department.

The produce of the Prison continues in active demand, and more goods than the establishment can supply could easily be disposed of, although care is taken not to undersell the usual market.

Abandonment of Baking Establishment.

We have stated that, in consequence of a recent re-adjustment, the Bakehouse will be at our disposal for occupation as a Washing-house. The plan of baking bread on the premises was adopted not for economy, but to give suitable employment to the Prisoners. It was supposed that it might operate beneficially in two ways—1st, That it might be the means of training unskilled Prisoners in a trade, by which they could make an honest living on release; and 2d, That when a person by trade a baker happened to be in Prison he would be more fit and more likely to continue his trade after release, if he were kept in practice at it while imprisoned. On inquiry, the Managers found that there were no results in either shape to justify them in keeping up an expensive and troublesome establishment. The member of the staff who had the best opportunity of speaking to the matter, over a course of thirteen years, could remember but one instance where an unskilled prisoner had been converted into an efficient practical baker. From the Chaplain's Notes of Visits to Liberated Prisoners, it was found that this man was employed in field-labour within two months after his release. On the other hand, the number of skilled workmen of any kind who get into a Prison for long-sentenced prisoners in Scotland is small, and, of these, the greater portion have long abandoned their trades, and are unlikely to be brought back to them. In these circumstances, the Managers resolved to contract for the Prison Bread as for the other stores.

Female Convicts in the Prison of Ayr.

The arrangement mentioned in our last Report for the detention of female Convicts in the Prison of Ayr still exists. These are under the direct authority of the Prison Board of Ayrshire; but we visit and inspect the Convict Department of the Prison occasionally, for the purpose of seeing that the terms of the contract are kept, and that the treatment of the Convicts continues to be such that we have no occasion to withdraw the recommendation on which the Secretary of State resolved that they should be sent to that Prison. Early in the year we had some reason to think that the conduct of the subordinate officers was not satisfactory. Some changes have since occurred; and the County Board having, in compliance with our request, taken on themselves the responsibility for the fitness of the subordinate officers, we found that the discipline of the Prison became improved towards the end of the year; and we have every reason to believe that this will continue.

Management of the Criminal Lunatics' Department.

We have already referred to the department just completed for the reception of Criminal Lunatics. We expect that its improved structure will enable us more fully to carry out our desire, that the treatment of its inmates should be alleviative and curative rather than penal; and if we shall be successful in this object, the public will obtain, at very little cost, the advantage of a national establishment for the criminal lunatics of Scotland. In our last Report we gave the following account of the manner in which this department is filled, and we here repeat it, as there are still occasional misunderstandings among the local authorities as to the purposes for which the Criminal Lunatics' Department of the General Prison is available:—

'In the first place, all Prisoners becoming insane in the General Prison are removed to this
' Department. Their insanity, before transfer, is certified by two medical men, and there is a like cer-
' tificate of recovery before they are restored to the Penal Department. By the Act of 1862, persons
25 and 26 Vict. c. 54, § 20. ' who have been placed at Her Majesty's disposal, on the ground of insanity, either at the time when
' they committed the offence charged against them, or at the time of trial, find their way, in the first
' place, to the Lunatic Department of the General Prison, whence they are removed only if Her
' Majesty should think fit otherwise to dispose of them. We have a discretionary power to remove to
' this Department any Prisoner under sentence, however short, in a Local Prison, on his insanity
§ 22. ' being duly certified. This function renders available, in the case of Prisoners who would not other-
' wise be transferred to the General Prison, that clause which empowers the Secretary of State to
' authorize the detention, beyond the period of his sentence, of an insane Prisoner in the General
§ 19. ' Prison. We, consequently, never order the removal of a Prisoner under short sentence to the General
' Prison, with a view of his admission to the Lunatic Department, unless we feel satisfied that the case
' is one in which we can apply to you for authority to detain him there after the expiry of his
' sentence.'

The number for which the department is adapted is 58, being 40 males and 18 females. We think this will be sufficient for the reception of all of that class whose crimes and propensities render them so dangerous to society, that not only must they be prohibited from going at large, but it is inexpedient that they should be committed to any other charge than that of responsible Government officers. The expense of their maintenance will be paid by the Treasury; and as private persons and parochial boards are thus relieved of a burden which is thrown on the country at large, it is necessary that in each instance a good case be made out for special detention in the General Prison. Both the selection for admission, and the continuance in the Prison of those who have been admitted, are sometimes attended with difficulties. A particular difficulty often attends the detention of those who are placed at Her Majesty's disposal on the ground of insanity at the time when the crimes with which they were charged were committed. It is not uncommon for persons of this description entirely to recover their sanity, and to retain it while they are within the establishment. Were they set at large, the risk would arise of a resort to stimulants, or other causes reproducing insanity with its dangerous propensities. If this class were to increase to any considerable number they might be very troublesome, because they could combine together for mischief—an event hardly ever occurring among the really insane, who have no reliance on each other. No doubt they could be easily repressed, but the steps necessary to accomplish this might necessitate the infusion through the management, of penal characteristics, which it is desirable for the sake of the really insane to avoid.

MISCELLANEOUS FUNCTIONS.

General Working.

It is now upwards of four years since the Managers commenced their functions under the Act of 1860. It is not one of these functions to criticise the statutory or other directions under which they act. They venture to state, however, that their experience enables them to give thus far a testimony to the soundness of the principles on which the new system was organized by the Legislature and the Department over which you preside,—that though the Managers are placed in communication with various Officers of other Departments, and with several independent public bodies, the business of the office has been conducted with perfect harmony.

The provision by which Her Majesty's Inspector of Prisons acts *ex officio* as one of our number has, in the opinion of his colleagues, had a specially satisfactory influence in obviating difficulties which might have arisen under a different arrangement. Among our proceedings there are some which, in his separate function of Inspector, it might be his duty to criticise, and in transacting these we have the benefit from the beginning of his skill and experience.

Returns by County Boards.

We have, as in former instances, to express our sense of the accuracy and punctuality with which the Officers of County Boards have supplied us with the statutory statistics, and the readiness with which they have co-operated to render these complete and instructive. We have not as yet, in any instance, had to appeal to you to use your statutory powers for enforcing these duties. Only in one instance was there some inconvenient delay in forwarding the necessary information, and that was caused by a change in the official staff of the County Board.

Proceedings as to Local Prisons.

We stated in our last Report, that we had the honour to be put in communication with you in relation to special proposals affecting the Prisons of Rothesay, Greenock, Falkirk, and Selkirk. The position of these is now respectively as follows :—

Prison of Rothesay.

The Prison of Rothesay is the only Prison in the county of Bute. Its improvement had been long pressed by the late General Board upon the County Board. After preparing two successive plans which were deemed unsatisfactory, the County Board prepared a third, of which you were pleased, in December last, to express your approval, recommending the County Board at the same time to proceed without delay in the execution of the works.

Prison of Greenock.

In December 1863, Her Majesty's Inspector of Prisons brought under your notice the very unsatisfactory condition of the Prison of Greenock, in the county of Renfrew. The late General Board of Prisons had long expressed a similar opinion, and had repeatedly urged the Prison Board of Renfrewshire to provide Greenock with a suitable Prison. In June 1863, the Prison was so overcrowded that, at the request of the County Board, you ordered certain Prisoners to be removed from it to the Prison of Paisley, under sect. 68 of the Prisons Act. The County Board then applied to you

to limit, under sect. 27 of the Act, the period during which convicted Criminals could be detained in the Prison, to ten days. In January 1864, you intimated to the Board that you considered it inexpedient to license the present Prison of Greenock for any period of detention of convicted Prisoners; and also that, should you not be satisfied within six months, that the County Board were taking steps to provide a proper Prison for the district, you would feel compelled to exercise the powers conferred on the Secretary of State by the Prisons Act, by issuing an order rendering the present building no longer a legal Prison. The Board proceeded to take the desired steps, the first of which was to fix on a site for a new Prison. There was a good deal of local discussion on this point, but the Board having fixed on the spot called the Kilblain Site, you after such inquiry as satisfied you of its fitness, approved of the selection. The County Board are understood to have given directions for the preparation of plans, which will no doubt be brought under your notice for approval.

Prison of Falkirk.

The unfitness of the Prison of Falkirk for the wants of the district had been frequently commented on by the General Board, who had under their consideration plans prepared by the County Board for a new Prison. In December 1863 the matter was brought under your notice by Her Majesty's Inspector. Having communicated with the County Board, they transmitted to you a set of plans, which, not being quite satisfactory, were altered by the County Board, and in their amended form received your approval in May 1864.

Prison of Selkirk.

In August you intimated to the Prison Board of Selkirkshire your approval of plans for certain alterations on the Prison of Selkirk, brought under your consideration by the Board.

Prison of Kirkcudbright.

In communication with the late General Board, the Prison Board of the Stewartry of Kirkcudbright had adjusted plans for a new Prison at Kirkcudbright, which had not, however, been erected. In October last, you intimated your approval of plans brought under your notice by the Board, who are understood to be taking steps for giving effect to them.

Prison of Stonehaven.

In October you intimated to the Prison Board of Kincardineshire your approval of plans for certain alterations on the Prison of Stonehaven, brought under your notice by the Board.

Prison of Dunbar.

The Prison Board of the county of Haddington having completed, to the satisfaction of Her Majesty's Inspector, a Prison in the town of Dunbar, on plans which had received your approval, you issued an order closing the old Prison on the 1st of August, and rendering the new building a legal Prison of the same class as at that date. A copy of the order is appended.

App. No. II.

Prison of Tobermory.

At the close of the year, you were in communication with us regarding a new Prison built by the County Board of Argyle at Tobermory, but the measures adopted in relation to it belong properly to our next Report.

Prison of Elgin.

In March last, the Prison Board for the county of Elgin intimated to you that the Prison of Elgin was overcrowded, and that they contemplated its enlargement. Having requested you to use your statutory powers for the temporary reduction of the numbers, you issued an order for the removal of some of the prisoners to the Prison of Aberdeen, and also an order under sections 27 and 28 of the Prisons Act, restricting the period during which it should be legal to detain prisoners in the Prison of Elgin to two months, and directing prisoners for longer periods to be removed to the Prison of Aberdeen. A copy of the order is appended.

App. No. II.

Prison of Inverness.

In consequence of certain communications which you had received regarding the Prison of Inverness, you issued, in March last, an order under section 58, on which one of the Managers proceeded to the spot and made an investigation on oath into the condition and management of that Prison, the result of which he reported to you. The Managers collectively are not responsible for proceedings under this clause, which lie with those undertaking them. The object of this provision is to enable an inquiry to be easily and economically conducted in circumstances in which, but for such a provision, it might be desirable to appoint a commission of inquiry. It may be sufficient here to state, that certain charges regarding the management of the Prison, professing to come from several quarters, were traced to one person; that the graver portion of them turned out to be unfounded; and that, as to some matters of minor importance, the County Board intimated the adoption of arrangements which you considered to be satisfactory.

Escape of two Convicts on their way to Public Works.

In terms of section 67 of the Prisons Act, the removal of prisoners from Prison to Prison in Scotland, and of convicts to England, was conducted under the direction of the Managers in a satisfactory manner, with the exception of one unfortunate instance

On the night of the 30th September, out of seven convicts on their way from Perth to Portsmouth, in charge of Officers of the General Prison, two escaped in the neighbourhood of Crewe. One of them was found dead on the line, the other got clear off. The primary cause of this occurrence exemplifies how arrangements for special security, if they happen to have a hidden flaw, may become sources of special insecurity through the reliance falsely placed on them. The escape was made from a railway carriage constructed for the purpose of carrying prisoners. It was to have been made of iron plates covered with thin panels of hard wood, both inside and outside, so as to appear as if entirely made of wood. It turned out, however, that there was no iron on the roof, and it was by cutting a hole in the roof that the men escaped. The Managers, at the same time, concur in the view expressed in your letter of the 2d of December, a copy of which was transmitted to the Governor of the Prison, that there was great carelessness on the part of the officers who carried out the removal. It appeared that the convicts were in possession of a blade of large scissors and a piece of a knife blade. The Managers found on investigation that for some years the searching of prisoners before their removal had been permitted to become lax. The Managers issued instructions for securing more care in future, and got the defect in the railway carriage remedied.

Escapes.

The following Escapes have been reported during the year from Prisons in Scotland :—

1st, On the 9th of January, a convicted Male Prisoner escaped from the Prison of Dumfries.

The County Board reported to you fully on the matter, attributing the escape to the gross carelessness of an Officer who had left a key in a door accessible to the Prisoner and leading to a gate left open. The Board stated that they had strictly warned the Governor and other Officers to be more careful in future. The Prisoner was retaken on the 15th January.

2d, On the 13th of January, an untried Female Prisoner escaped from the Prison of Falkirk, in the county of Stirling.

It was not considered necessary on your part to institute any special inquiry into the matter, as the Prison is condemned as insufficient, and measures are in progress, as above explained, for its renewal. The Prisoner was retaken.

3d, On the 5th of March an untried Prisoner escaped from the Prison of Stonehaven, in Kincardineshire.

The Prisoner had taken advantage of some structural changes in progress in the Prison, but the County Board considered the Governor so far to blame that they dismissed him. The Prisoner was retaken.

4th, On the 23d of June, an untried Female Prisoner escaped from the Prison of Dingwall in Ross-shire.

This, like the preceding, was accomplished during building operations, and is an addition to the many instances which show how necessary it is to be vigilant and careful at such times. The Prisoner, in this instance, found a plank by which she was enabled to mount the wall. The Prison Board, though attributing carelessness to the Governor, did not consider it necessary to dismiss him. The Prisoner was retaken.

No Suicides.

It is our duty to bring under your notice any acts of suicide committed by prisoners during the year, but we have the satisfaction to state that no such occurrence has been reported to us during the year 1864.

Prison Dietaries.

A short time ago we thought it our duty to bring under your notice that the existing general dietary for the Prisons of Scotland was now ten years old; that a special dietary had been adopted for Female Convicts in 1857; and that there was now experimentally in use a special diet for Male Convicts. Aware that inquiries regarding the most suitable elements of Prison Dietaries had been made in England, and had resulted in practical changes, we suggested that it would be desirable to have a Report on the best Dietary Table for the several classes of Prisoners in Scotland, keeping in view whatever instruction may be derived from the recent proceedings in England. You were pleased to approve of this suggestion, and to direct that it should be carried out by Professor Christison, and Mr. J. B. Thomson, the Resident Surgeon of the General Prison.

Table of average numbers of Prisoners since 1840.

Average Daily Number of Prisoners in the Prisons of Scotland from 1840 to 1864 inclusive, each Year ending in December.

Period.	Civil.			Criminal.		
	Males.	Females.	Total.	Males.	Females.	Total.
In 1840	98	10	108	1,264	676	1,940
1841	90	7	97	1,222	742	1,964
1842	88	6	94	1,557	865	2,422
1843	84	6	90	1,499	789	2,288
1844	83	5	88	1,492	766	2,258
1845	69	5	74	1,323	769	2,092
1846	54	6	60	1,359	848	2,207
1847	44	2	46	1,596	932	2,528
1848	51	2	53	1,928	1,041	2,969
1849	58	4	62	2,035	1,108	3,143
1850	68	1	69	1,974	1,016	2,990
1851	75	1	76	1,885	1,015	2,900
1852	78	4	82	1,915	1,004	2,919
1853	66	2	68	1,771	953	2,724
1854	55	4	59	1,742	924	2,666
1855	57	5	62	1,452	864	2,316
1856	69	3	72	1,239	971	2,210
1857	56	2	58	1,196	1,005	2,201
1858	70	2	72	1,119	995	2,114
1859	69	1	70	1,098	1,093	2,191
1860	62	2	64	1,044	1,057	2,101
1861	57	2	59	1,072	1,011	2,083
1862	68	2	70	1,211	1,014	2,225
1863	81	2	83	1,347	1,055	2,402
1864	67	5	72	1,345	1,112	2,457

Fluctuations in Number of Prisoners.

In the successive Annual Reports from this department, attention has been directed to the continued decrease in the average number of Criminal Prisoners throughout Scotland, down to the year 1858, and the subsequent tendency towards an increase. It will be seen from the above Table that the year 1864 presents a gross increase of 55 over the preceding year. In calculating the influence of these numbers, it will have to be observed that, while Male Convicts were formerly immediately removed to England, they have in 1863 and 1864 been detained during their first stage in the General Prison. The daily average of these was in 1863, 60; and in 1864, 79. Hence the net increase in the year 1864 over 1863, is 36. The tendency to increase appears to have ceased, whether temporarily or permanently, about the middle of the year. Thus, though over the whole year there is an increase, the returns which we publish quarterly show that in the September quarter there was a decrease of 20 on the numbers for the corresponding period of 1863, and in the December quarter a like decrease of 17.

Receipts and Expenditure.

The Prisons Act requires us to report to you an Abstract of our whole receipts and expenditure within the year, classifying the separate articles thereof.

The only branches of expenditure in which the public money passes directly through our own hands are—The current expenses of our Establishment, for which the sum of £148 was voted, and the expense of the removal of convicts and other prisoners, for which the sum of £1300 was voted, both for the financial year 1864. Of our accounts for the issues to us during the year, under the votes for these branches, as rendered to the Commissioners of Audit, an Abstract follows :—

App. No. XXVIII.

Current Expenses of our Establishment.

Charge.				Discharge.			
Balance due by Managers,	£62	6	8	Expenditure during the year,	£197	14	9
Cash from Treasury,	250	0	0	Balance,	131	13	0
Interest from Bank,	9	11	0				
Balance transferred from Public Monies Account, now closed,	7	10	1				
	£329	7	9		£329	7	9

Removal of Convicts Sentenced to Penal Servitude.

Charge.				Discharge.		
Balance due by Managers,	£129	1 8	Payments,	£959	0 9	
Cash from Treasury,	1100	0 0	Balance,	270	0 11	
	£1229	1 8		£1229	1 8	

Removal of Prisoners.

Charge.				Discharge.		
Balance due by Managers,	£272	10 3	Payments,	£453	18 10	
Cash from Treasury,	500	0 0	Balance,	318	11 5	
	£772	10 3		£772	10 3	

The Salaries of the Officers of the establishment are paid by the Queen's and Lord Treasurer's Remembrancer in Exchequer, and amounted last year to £1152.

The cost of the maintenance of the General Prison is defrayed by Parliamentary vote, the amount voted for the year 1864 being—

For current annual expenses,	£16,517 0 0
Special works,	2,380 0 0
Ordinary works and repairs,	1,850 0 0
Total,	£20,747 0 0

The issues on this sum are paid to the Governor on imprests, through the Remembrancer in Exchequer, granted on our Certificate. The Governor's accounts are audited by us before transmission to the Commissioners of Audit in London. An Abstract of them is printed in the Appendix. It shows the following results :— App. No. XIII.

Current Expenses.

Charge.				Discharge.		
Receipts,	£21,661	16 0	Payments,	£20,302	1 3	
			Balance,	1,359	14 9	
	£21,661	16 0		£21,661	16 0	

Special Works. App. No. XXVIII.

Charge.				Discharge.		
Receipts,	£674	17 0	Payments,	£674	17 0	

Ordinary Works and Repairs. App. No. XIII.

Charge.				Discharge.		
Receipts,	£1,652	12 8	Payments,	£1,652	12 8	

The following is an Abstract of the Accounts for the expense of maintaining Female Convicts in the Prison of Ayr, for which the sum of £1820 was voted :— App. No. XXVIII.

Charge.				Discharge.		
Receipts,	£1,907	7 9	Payments,	£1,907	7 9	

The Treasury refund to County Boards the cost of maintenance of prisoners tried by jury or committed on Sheriff's warrants. The amount does not pass through our hands, but is paid by the Remembrancer in Exchequer. He has furnished us with the Table of Expenditure under this department for the year, printed in the Appendix, which shows the total amount to be £4,224, 15s. 1d. App. No. XXVII.

Thus the total expenditure of monies voted by Parliament for the Prisons Department in Scotland for year 1864, stands as follows :—

Current expenses of General Prison,	£20,302 1 3
Special Works at do.,	674 17 0
Ordinary Works and Repairs at do.,	1,652 12 8
Salaries of the Paid Staff of the Managers' Department,	1,152 0 0
Miscellaneous Expenses of the Managers' Department,	197 14 9
Expense of removals of convicts and prisoners,	1,412 19 7
Expense of Female Convicts in the Prison of Ayr,	1,907 7 9
Maintenance of Prisoners in Local Prisons,	4,224 15 1
	£31,524 8 1

* The Table for last year had not been made up in time to appear in our Report. The total amount, appearing in the Table also appended, was £4,300, 3s. 6d. App. No. XXVI.

Assessments Voted by County Boards.

By your direction, County Boards furnish us with returns of the assessments annually voted by them for the current expenses of their Prisons, and for building purposes, with a statement of the portions to be levied on landward or rural and on burghal districts respectively. A Table of these returns, printed in the Appendix, shows the amount voted throughout the counties to have been as follows :—

App. No. XXII.

For Current Expenses.				For Building Expenses.			
Rural,	£19,667	7	9½	Rural,	£2,281	12	2
Burghal,	13,185	15	7½	Burghal,	1,019	9	0
Total,	£32,853	3	5	Total,	£3,301	1	2

Amount payable by Counties for Prisoners detained in other Counties.

Under Sect. 32 of the Prisons Act, when a Prisoner is detained in the Local Prison of a County other than that in which the crime was committed, and there is any dispute between the two Counties as to the expense of his maintenance, the amount is fixed by the Crown Agent. Such settlements do not come under our official cognizance, but as it may be a matter of interest to Local Boards, we take the opportunity of stating, on the authority of the Crown Agent, who is one of our number, that, during the past year, there being a dispute as to the expense of maintaining certain Forfarshire Prisoners in the Prison of Edinburgh, the Crown Agent fixed the amount at 1s. per day per Prisoner.

We have the honour to be,

Sir,

Your very obedient Servants,

EDWARD S. GORDON.

AND. MURRAY, Jr.

J. H. BURTON.

HERBERT P. VOULES.

APPENDIX.

No. I.—A LIST OF THE PRISONS IN SCOTLAND

(AS AT 1st JANUARY 1865).

With a reference to any Declarations by the late General Board of Prisons or Orders by the Secretary of State defining the purpose for which they are legal.

LOCAL PRISONS.

ABERDEEN—*Aberdeen.*—Legalized in 1840. Consists of two edifices, called the East and West Branches. Second Report, pp. 18-20.

Peterhead.—Legalized in 1845. Certain classes of civil prisoners excepted. Period for convicted prisoners, not exceeding 60 days. Seventh Report, p. 10.

Huntly.—Legalized in 1847. All classes of civil prisoners excepted. Period for convicted criminals, not exceeding 10 days. Ninth Report, p. 16.

Fraserburgh.—Legalized in 1848. All classes of civil prisoners excepted. Period for convicted criminals not exceeding 10 days. Tenth Report, p. 15.

ARGYLE—*Inveraray.*—Legalized in 1848. Tenth Report, p. 15.

Campbeltown.—Legalized in 1847. Ninth Report, p. 16.

Tobermory.—Built and in use before the constitution of the General Board.

Fort-William.—Common to the Counties of Argyle and Inverness. Legalized in 1849. All classes of civil prisoners excepted. Period for convicted criminals not exceeding 60 days. Eleventh Report, p. 15.

10. *Lochgilphead.*—Legalized in 1850. All classes of civil prisoners excepted. Period for convicted criminals not exceeding 30 days. Twelfth Report, p. 16.

AYR—*Ayr.*—Legalized in 1853. Fifteenth Report, p. 24.

Kilmarnock.—Legalized in 1853. All classes of civil prisoners excepted. Period for convicted criminals not exceeding three months. Fifteenth Report, p. 25.

BANFF*—*Banff.*—Legalized in 1844. Sixth Report, p. 19.

Keith.—Legalized in 1844. Certain classes of civil prisoners excepted. Period for convicted prisoners not exceeding 10 days. Sixth Report, p. 19.

BERWICK—*Greenlaw.*—Legalized before the constitution of the General Board. Fourth Report, p. 17.

Dunse.—Legalized in 1843. Certain classes of civil prisoners excepted. Periods on warrants of imprisonment not exceeding 14 days. Fifth Report, p. 17.

BUTE—*Rothesay.*—Legalized before the constitution of the General Board.

CAITHNESS—*Wick.*—Legalized before the constitution of the General Board. Seventh Report, p. 12.

CLACKMANNAN—*Alloa.*—Legalized in 1853. Fifteenth Report, p. 26.

20. DUMBARTON—*Dumbarton.*—Legalized as enlarged and altered in 1855. Seventeenth Report, p. 16.

Helensburgh.—Legalized in 1843. Certain civil prisoners excepted. Period for convicted prisoners, not exceeding ten days. Fifth Report, p. 19.

Kirkintilloch.—Legalized in 1844 in the same terms as Helensburgh. Sixth Report, p. 21.

DUMFRIES—*Dumfries.*—Legalized in 1851 and 1852. Thirteenth Report, p. 21, and Fourteenth, p. 19.

EDINBURGH—*Edinburgh.*—Legalized in 1847. Ninth Report, p. 19.

The Court Buildings' Prison, legalized in 1857, is part of the Prison of Edinburgh, for criminal prisoners only, on the condition that none are to be detained in it beyond ten days at a time. Nineteenth Report, p. 12.

Musselburgh.—Legalized in 1840. Certain classes of civil prisoners excepted. Convicted prisoners not to be detained more than 30 days. Fifth Report, p. 21.

ELGIN—*Elgin.*—Legalized in 1843. Fifth Report, p. 21. Period for convicted prisoners limited to two months, for temporary purposes referred to in the body of the Report, p. 8.

Forres.—Legalized in 1850. All classes of civil prisoners excepted. Period for convicted criminals not exceeding 10 days. Twelfth Report, p. 18.

FIFE—*Cupar.*—Legalized in 1844. Sixth Report, p. 23, and Fifteenth Report, p. 27.

Dunfermline.—Legalized in 1844. Sixth Report, p. 23.

30. FORFAR—*Dundee.*—Legalized in 1845. Seventh Report, p. 15.

Forfar.—Legalized in 1852. Fourteenth Report, p. 20.

HADDINGTON—*Haddington.*—Legalized in 1847. Ninth Report, p. 21.

Dunbar.—Legalized in 1864. Period for convicted prisoners, not exceeding 10 days. Twenty-Sixth Report, p. 8.

INVERNESS—*Inverness.*—Legalized in 1849. Eleventh Report, p. 19.

Lochmaddy.—Legalized in 1848. Period for convicted prisoners, not exceeding 60 days. Tenth Report, p. 20.

Portree.—Legalized in 1848, on the same conditions as Lochmaddy. Tenth Report, p. 20.

Fort-William.—Already mentioned as common to the Counties of Argyle and Inverness; it is under the management of the Prison Board of the County of Inverness.

KINCARDINE—*Stonehaven.*—Legalized in 1843. Fifth Report, p. 24.

KINROSS—*Kinross.*—Legalized in 1845. Seventh Report, p. 17.

KIRKCUDBRIGHT—*Kirkcudbright.*—Legalized before the con- 40.
stitution of the General Board. Fifth Report, p. 24.

Maxwelltown.—Legalized before the constitution of the General Board.

LANARK—*Glasgow.*—Legalized in 1841 and 1853. Fifteenth Report, p. 29.

The Court Buildings' Prison, legalized in 1862 by Order of the Secretary of State, is part of the Prison of Glasgow, for criminal prisoners only, on the condition that none be detained in it longer than 48 hours at one time. Twenty-Fourth Report, p. 13.

Hamilton.—Legalized before the constitution of the General Board. Fourth Report, p. 23.

Lanark.—Legalized before the constitution of the General Board. Fourth Report, p. 23.

Airdrie.—Legalized in 1859.—Fifth Report, p. 25; Fifteenth Report, p. 24; and Twenty-first Report, p. 8.

LINLITHGOW—*Linlithgow.*—Legalized in 1853. Fifteenth Report, p. 29.

NAIRN—*Nairn.*—Legalized in 1846. Fifth Report, p. 26, and Eighth Report, p. 19.

ORKNEY—*Kirkwall.*—Legalized before the constitution of the General Board. Second Report, p. 49.

PEEBLES—*Peebles.*—Legalized in 1844. Sixth Report, p. 27.

PERTH—*Perth.*—Legalized in 1845. Seventh Report, p. 19. 50.

Dunblane.—Legalized in 1843. Period for convicted prisoners, not extending to 3 months. Fifth Report, p. 27.

Police Prison at Perth.—A legal place of confinement for periods not exceeding 3 days.

RENFREW—*Paisley.*—Legalized in 1853. Fifteenth Report, p. 30.

Greenock.—Legalized in 1857. All classes of civil prisoners excepted. Period for convicted criminals, not exceeding 20 days. Fifth Report, p. 28, and Nineteenth Report, p. 13.

Pollockshaws.—Legalized in 1846. Certain civil prisoners excepted. Period for convicted prisoners, not exceeding 10 days. Eighth Report, p. 20.

ROSS & CROMARTY—*Dingwall.*—Legalized in 1845. Seventh Report, p. 21.

Tain.—Legalized in 1846. Period for convicted prisoners, not exceeding 60 days. Eighth Report, p. 20.

Cromarty.—Legalized in 1847 on the same conditions as Tain. Sixth Report, p. 29, and Ninth, p. 24.

Stornoway.—Legalized in 1846. Period for convicted prisoners, not exceeding 3 months. Eighth Report, p. 20.

ROXBURGH—*Jedburgh.*—Legalized before the constitution of 60.
the General Board. Tenth Report, p. 23.

Hawick.—Legalized in 1844. Certain civil prisoners excepted. Period for convicted prisoners, not exceeding 10 days. Sixth Report, p. 30.

Kelso.—Legalized in 1844 on the same terms as Hawick. Sixth Report, p. 30.

SELKIRK—*Selkirk.*—Legalized before the constitution of the General Board. Third Report, p. 24.

STIRLING—*Stirling.*—Legalized in 1847. Ninth Report, p. 24.

Falkirk.—Discontinued in 1847 as a Prison for convicted prisoners.

SUTHERLAND—*Dornoch.*—Legalized in 1844. Sixth Report, p. 30.

WIGTOWN—*Wigtown.*—Legalized in 1848. Tenth Report, p. 24.

Stranraer.—Legalized in 1848. Tenth Report, p. 24.

ZETLAND—*Fort Charlotte.*—Legalized in 1845. Seventh Report, p. 22.

THE GENERAL PRISON FOR SCOTLAND AT PERTH.

69. Declared by the Prisons' Act to be for prisoners sentenced to imprisonment, and for such convicts under sentence of transportation or penal servitude as may be sent thither by Secretary of State's warrants. The Act declares, that every prisoner sentenced to nine months' imprisonment and upwards may be removed to the General Prison, unless the sentence contains a clause that the prisoner shall not be removed thereto. Also a place of detention for the Criminal Lunatics of Scotland under 25 and 26 Vict. cap. 54.

* The Prison of Cullen in this county was closed on 1st January 1864. See Twenty-fifth Report, p. 36.

No. II.—Orders issued by the Secretary of State during the **Year 1864**, in pursuance of the 27th Section of the Act 23 and 24 Victoria, cap. 105.

Prison of Elgin.

The Right Honourable Sir George Grey, Baronet, one of Her Majesty's Most Honourable Privy Council, and Principal Secretary of State, etc. etc. etc.

In virtue of the powers contained in "The Prisons (Scotland) Administration Act, 1860," I do hereby order and intimate that the *Prison of Elgin* shall, on and after the 30th day of April instant, Cease to be a Prison for the detention, beyond two months from the date of their respective sentences, of Prisoners sentenced to imprisonment, and that the *Prison of Aberdeen*, in the county of Aberdeen, shall be the Prison to which the Prisoners who cannot be confined in the Prison of Elgin, by reason of the change made by this order in the classes of Prisoners for which the same is legal, shall be removed; and further, that every such Prisoner, before the expiry of two months from the date of his sentence, shall be removed by or under the direction of the Prison Board of the county of Elgin, under the powers conferred on them by the said Act.

Given under my hand and seal at Whitehall, the 15th day of April 1864, in the twenty-seventh year of Her Majesty's reign. G. Grey.

Prison of Dunbar.

The Right Honourable Sir George Grey, Baronet, one of Her Majesty's Most Honourable Privy Council, and Principal Secretary of State, etc. etc. etc.

In virtue of the powers contained in "The Prisons (Scotland) Administration Act, 1860," I do hereby order and intimate that the *Building* which has heretofore been the *Prison of Dunbar*, in the county of Haddington, shall, on and after the 1st day of August 1864, Cease to be a Legal Prison; and further, that on the said building ceasing to be a Legal Prison, the *New Building*, erected for a Prison in the said town of Dunbar, under the superintendence of the Prison Board of the county of Haddington, consisting of three cells or apartments and a Keeper's House, shall, as the *Prison of Dunbar*, be a Legal Prison for the detention of Criminal Prisoners; provided that, in the case of Prisoners under sentence of imprisonment, the same shall only be a legal place of imprisonment for periods not exceeding Ten Days from the date of their respective sentences; and that every Prisoner under a sentence which may exceed ten days shall, before the expiry of ten days from the date thereof, be removed to the Prison of Haddington, by or under the direction of the Prison Board for the county of Haddington.

Given under my hand and seal at Whitehall, the 7th day of July 1864, in the twenty-eighth year of Her Majesty's reign. G. Grey.

No. III.—Comparative Statement of the Average Daily Number of Criminal Prisoners in the several Prisons in Scotland, in the two quinquennial periods ending 30th June 1856 and 1861 respectively. Also the number in each of the three years ending 30th June 1862, 1863, and 1864. *Compiled from the Reports on Prisons in Scotland.*

	Yearly number on an average in the five years ending		In the years ending		
	30th June 1856.	30th June 1861.	30th June 1862.	30th June 1863.	30th June 1864.
I. Number of Prisoners received in the year,	22,411	19,439	20,440	23,304	25,767
Deduct received by Transference or Removal from one Prison to another,	1,039	864	739	852	939
II. Total Nett Number of Commitments in the year,	21,372	18,575	19,701	22,452	24,828
III. Ages of the above :—					
Under 16 years,	1,887[1]	1,224	1,120	1,075	1,036
16 and under 18 years,	1,504[2]	982	966	1,070	1,054
18 and under 21 years,	3,018	2,357	2,468	2,924	3,176
21 and under 50 years,	13,585	12,657	13,580	15,527	17,007
50 and above,	1,377[2]	1,355	1,567	1,856	2,555
Total,	21,372	18,575	19,701	22,452	24,828
IV. Sentences of Prisoners convicted during the year, viz. :—					
1. To imprisonments for definite periods, viz. :—					
10 days and under,	2,715[3]	2,573	2,711	3,610	3,665
11 days and not above 60 days,	8,218	6,728	6,577	7,460	8,114
Above 60 days and under 6 months,	640[4]	499	619	487	526
6 months and under 1 year,	633[1]	417	393	380	426
1 year and upwards,	337[6]	265	291	263	266
Total imprisonments for definite periods,	12,545[2]	10,482	10,591	12,200	12,997
2. To imprisonment for indefinite periods, viz. :—					
1. Until caution found to keep the peace,	829[2]	555	526	665	511
2. Until or instead of payment of fine or penalty,	3,527[4]	4,198	5,853	7,095	8,674
Total imprisonments periods not definite,	4,357[2]	4,753	6,379	7,760	9,185
3. Juveniles to Whipping without Imprisonment,	102[2]	88	68	51	37
4. To Transportation, viz. :—					
7 years,	116[4]	...	.....	.....	.....
10 years,	26[3]	.....	.....	.....	.....
14 years,	21[4]	2	.....	.....	.....
15 years,	17	4	.....	.....	.....
20 years,	0[2]	.....	.....	.....	.....
21 years,	10[1]	4	.....	.....	.....
Life,	7	1	.....	.....	.....
5. To Penal Servitude, viz. :—					
3 years,	.....	19	31	41	24
4 years,	99[3]	105	95	61	91
Above 4 years and not above 6 years,	34[2]	12	.....	.....	.....
Above 6 years and not above 8 years,	3[4]	.....	.....	.....	.....
Above 8 years and not above 10 years,	0[2]	.....	.....	.....	.....
5 years,	.....	13	7	16	10
6 years,	.....	20	35	35	40
7 years,	.....	10	2	6	10
8 years,	.....	16	34	22	28
10 years,	.....	19	21	15	22
12 years,	.....	.....	1	.....	2
14 years,	.....	2	.....	.....	.....
15 years,	.....	5	4	6	6
21 years,	.....	4	3	.....	3
Life,	0[1]	2	4	1	1
V. Total Sentences to Transportation and to Penal Servitude,	336[3]	238	237	203	237
VI. To Death, including Sentences afterwards commuted,	3[4]	3	2	2	2
VII. Grand Total of Sentences,	17,346[3]	15,564	17,277	20,216	22,458
VIII. Previous imprisonments in the same Prison of Prisoners received, viz. :—					
Once,	3,316[1]	2,565	2,941	3,320	3,776
Twice,	1,656	1,253	1,400	1,593	1,893
Thrice,	956[3]	827	871	1,035	1,212
Four Times,	653	579	639	700	810
Five Times,	459[3]	435	449	567	582
Six Times and under Ten,	862[3]	924	1,045	1,206	1,378
Ten Times and under Twenty,	677	802	847	1,050	1,192
Twenty Times and under Fifty,	489[3]	515	703	783	828
Fifty Times and upwards,	76[3]	119	214	263	278
Total,	9,139[1]	8,019	9,109	10,517	11,949
IX. State as to Instruction of Criminal Prisoners on admission :—					
1. Reading,—Could not read,	4,368[4]	3,802	3,960	4,457	5,166
Read with difficulty,	10,440	9,254	10,874	12,697	12,942
Read well,	5,656	4,765	4,789	5,398	6,720
Total,	20,465[2]	17,821	19,623	22,452	24,828
2. Writing—Could not write,	9,655	8,371	8,972	10,415	11,450
Could sign name merely,	601	535	660	542	390
Write with difficulty,	8,290[4]	7,341	8,199	9,477	10,182
Write well,	1,917[1]	1,574	1,792	2,018	2,806
Total,	20,464	17,821	19,623	22,452	24,828
Had learned more than mere reading and writing,	304[2]	273	442	410	436
X. Average daily number in confinement,	2,666	2,159	2,189	2,285	2,466

No. IV.

DIGEST of RETURNS from the PRISON BOARDS of the several COUNTIES, and from the GOVERNOR of the GEN the PRISONERS confined therein, for the Period beginning on the **1st Day of July 1863**, immediately

	COUNTIES.	PRISONS.	No. of Prison.	1. Extent of Prison Accommodation.								2. In Prison				
				Criminal Department.				Civil Department.				Criminal.				
				Number of Cells or Rooms for Confinement, viz.—				Number of Cells or Rooms for Confinement, viz.—				Total.			Untrie	
				During Night, or Night and Day.		During Day only.		During Night, or Night and Day.		During Day only.						
				M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.	M.	F.
1	Aberdeen	Aberdeen	1	100	44	15	...	7	1	1	...	21	18	39	8	1
		Peterhead	2	3	3	...	...	...	...	...	...	...	1	1	...	1
		Huntly	3	3	...	...	...	...	...	...	...	...	...	...	...	...
		Fraserburgh	4	2	...	...	...	...	...	...	...	...	...	...	...	...
2	Argyle	Inveraray	5	12	9	...	...	4	...	...	...	5	5	10	1	1
		Campbeltown	6	6	3	...	...	1	...	...	...	6	3	9	1	1
		Tobermory	7	2	1	...	...	...	...	...	...	...	...	...	...	...
		Lochgilphead	8	3	1	...	...	...	...	...	...	...	...	...	...	...
3	Ayr	Ayr	9	61	99	...	...	4	1	1	1	28	68	96	7	2
		Kilmarnock	10	10	5	...	...	...	...	...	...	16	7	23	8	3
4	Banff	Banff	11	12	6	...	...	1	...	...	...	13	5	18	1	4
		Keith	12	1	1	...	...	...	...	...	...	...	...	...	...	...
		Cullen	13	1	1	...	...	...	...	...	...	...	...	...	...	...
5	Berwick	Greenlaw	14	16	3	...	...	2	1	...	...	8	1	9	...	...
		Dunse	15	3	1	...	...	...	...	...	...	2	1	3	1	...
6	Bute	Rothesay	16	6	5	...	...	1	1	...	...	3	...	3	1	...
7	Caithness	Wick	17	6	2	...	...	1	1	...	...	7	1	8	3	...
8	Clackmannan	Alloa	18	14	6	...	1	1	1	...	...	7	1	8	...	...
9	Dumbarton	Dumbarton	19	20	9	...	...	1	1	...	...	7	4	11	1	...
		Kirkintilloch	20	2	1	...	...	...	...	...	...	...	...	...	...	...
		Helensburgh	21	2	1	...	...	...	...	...	...	...	...	...	...	...
10	Dumfries	Dumfries	22	31	14	...	...	1	1	...	...	26	4	30	2	1
11	Edinburgh	Edinburgh, including Court Buildings	23	234	202	...	...	13	2	6	...	208	178	386	35	20
		Musselburgh	24	4	1	...	...	...	...	...	...	2	...	2	...	...
12	Elgin	Elgin	25	10	...	...	...	2	...	...	...	12	1	13	4	...
		Forres	26	3	1	...	...	...	...	...	...	...	...	...	...	...
13	Fife	Cupar	27	34	15	...	...	1	...	...	...	16	3	19	6	1
		Dunfermline	28	13	7	...	...	1	...	...	...	1	3	4	...	...
14	Forfar	Dundee	29	66	82	...	...	6	1	2	...	43	38	81	10	3
		Forfar	30	27	8	...	...	4	...	1	...	15	1	16	4	...
15	Haddington	Haddington	31	12	6	...	...	2	...	...	...	10	2	12	1	1
		Dunbar	32	1	1	...	...	...	...	...	...	...	...	...	...	...
16	Inverness	Inverness	33	19	10	...	...	2	...	...	...	14	3	17	2	...
		Portree	34	4	1	...	...	...	...	...	...	...	1	1	...	1
		Lochmaddy	35	2	2	...	...	...	...	...	...	...	...	...	...	...
		Fort-William	36	6	1	...	...	...	...	...	...	1	...	1	1	...
17	Kincardine	Stonehaven	37	8	3	...	...	1	...	...	...	1	...	1	...	...
18	Kinross	Kinross	38	4	2	...	...	1	1	...	...	1	...	1	...	...
19	Kirkcudbright	Kirkcudbright	39	8	3	...	...	1	...	...	...	8	...	8	2	...
		Maxwelltown	40	3	1	...	...	...	...	...	...	...	...	...	...	...
20	Lanark	Glasgow	41	338	173	3	...	34	2	4	1	292	187	479	58	23
		Lanark	42	18	5	...	...	5	...	1	...	4	1	5	...	...
		Hamilton	43	24	5	...	2	4	1	1	...	25	11	36	9	3
		Airdrie	44	31	12	...	...	4	...	...	...	29	16	45	4	...
21	Linlithgow	Linlithgow	45	15	10	...	...	1	1	...	...	9	6	15	2	2
22	Nairn	Nairn	46	3	2	...	...	1	...	...	...	3	...	3	3	...
23	Orkney	Kirkwall	47	3	2	...	...	1	...	...	...	...	2	2	...	...
24	Peebles	Peebles	48	11	...	...	...	1	...	1	...	7	...	7	...	...
25	Perth	Perth	49	30	17	2	1	1	1	...	...	27	18	45	8	4
		Perth Police Cells	50	4	3	...	...	...	...	...	...	1	1	2	...	1
		Dunblane	51	7	2	...	...	1	...	...	...	2	1	3	1	...
26	Renfrew	Paisley	52	89	53	1	1	2	1	...	...	62	34	96	7	2
		Greenock	53	23	10	...	...	...	...	...	...	12	22	34	5	13
		Pollockshaws	54	2	2	...	...	...	...	...	...	1	1	2	1	1
27	Ross and Cromarty	Dingwall	55	9	9	...	...	1	...	...	...	3	2	5	1	1
		Tain	56	4	1	...	...	1	1	...	...	3	5	8	2	2
		Cromarty	57	3	...	...	...	1	...	...	...	...	...	...	...	...
		Stornoway	58	5	...	...	...	1	...	...	...	...	...	...	...	...
28	Roxburgh	Jedburgh	59	34	8	...	...	1	1	...	...	8	2	10	2	1
		Hawick	60	4	...	...	...	...	...	...	...	1	...	1	...	...
		Kelso	61	4	...	...	...	...	...	...	...	...	...	...	...	...
29	Selkirk	Selkirk	62	5	3	...	...	1	1	...	...	2	1	3	...	...
30	Stirling	Stirling	63	35	19	...	...	1	1	...	...	36	16	52	5	3
		Falkirk	64	1	1	...	...	...	...	...	...	4	...	4	4	...
31	Sutherland	Dornoch	65	8	4	...	...	1	1	...	...	1	...	1	...	...
32	Wigtown	Wigtown	66	6	2	...	...	1	...	...	...	1	6	7	...	2
		Stranraer	67	6	6	...	...	1	1	...	...	1	1	2	...	1
33	Zetland	Fort-Charlotte	68	6	...	...	...	1	...	...	...	2	1	3	...	...
25	Perth	General Prison	69	383	389	4	8	...	...	...	...	361	388	749	19	7
				1885	1299	25	13	124	24	18	2	1378	1071	2449	230	106

No. IV.

ON for SCOTLAND at PERTH, relative to the ACCOMMODATION in the several Prisons throughout Scotland, and to night of the preceding Day, and ending on the **30th day of June 1864,** at Midnight of that Day.

...ncement of the Period.						3. Number received during the Period.									4. Total Number in Confinement during the Period, including Cases of Recommitment.						5. Number removed during the Period to other Prisons for detention.				No. of Prison.
						Criminal.						Civil.			Criminal.			Civil.			Criminal.				
Convicted.			Civil.			Including Cases of Recommitment within the year.			Not including Cases of Recommitment of the same Prisoner within the year.												(1.) In Prison at Commencement of the Period.		(2.) Received during the Period.		
	F.	Total.	M.	F.	Tot.	M.	F.	Total.	M.	F.	Total.	M.	F.	Tot.	M.	F.	Total.	M.	F.	Tot.	M.	F.	M.	F.	
3	17	30	6	...	6	527	442	969	417	264	681	55	1	56	548	460	1008	61	1	62	4	1	15	1	1
	...	...	...	...	...	77	21	98	71	19	90	...	...	...	77	22	99	...	...	...	...	...	6	2	2
	...	...	...	...	...	10	4	14	10	4	14	...	...	...	10	4	14	...	...	...	...	...	3	1	3
	...	...	...	...	...	18	2	20	15	2	17	...	...	...	18	2	20	...	...	...	...	...	1	...	4
	4	8	...	...	...	68	20	88	68	19	87	7	...	7	73	25	98	7	...	7	...	...	7	...	5
	2	7	...	...	...	91	26	117	86	22	108	5	...	5	97	29	126	5	...	5	...	...	...	1	6
	...	...	...	...	...	23	2	25	23	2	25	...	...	...	23	2	25	...	...	...	...	...	7	1	7
	...	...	...	...	...	14	1	15	14	1	15	...	...	...	14	1	15	...	...	...	...	...	1	...	8
	66	87	5	...	5	246	187	433	185	131	316	21	1	22	274	255	529	26	1	27	8	19	12	4	9
3	4	12	...	...	...	170	75	245	121	43	164	...	...	...	186	82	268	...	...	...	...	2	11	8	10
2	1	13	1	...	1	65	17	82	63	16	79	2	1	3	78	22	100	3	1	4	1	...	1	2	11
	...	...	...	...	...	7	3	10	7	3	10	...	...	...	7	3	10	...	...	...	...	...	4	1	12
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13
3	1	9	1	...	1	60	10	70	53	8	61	3	...	3	68	11	79	4	...	4	1	...	1	...	14
	1	2	...	...	...	59	10	69	56	10	66	...	...	...	61	11	72	...	...	...	...	...	25	2	15
2	...	2	2	...	2	113	37	150	102	31	133	9	...	9	116	37	153	11	...	11	1	...	2	1	16
5	1	5	...	...	...	70	18	88	67	17	84	19	...	19	77	19	96	19	...	19	2	...	2	2	17
	1	8	...	...	...	72	40	112	69	36	105	3	...	3	79	41	120	3	...	3	...	...	1	...	18
5	4	10	...	...	...	276	70	346	254	58	312	5	...	5	283	74	357	5	...	5	...	...	1	3	19
	...	...	...	...	...	25	11	36	23	11	34	...	...	...	25	11	36	...	...	...	...	...	1	...	20
	...	...	...	...	...	57	14	71	52	14	66	...	...	...	57	14	71	...	...	...	...	...	3	3	21
9	3	27	1	...	1	389	185	574	309	112	421	24	...	24	415	189	604	25	...	25	1	...	5	1	22
8	158	331	6	1	7	2561	3138	5699	2072	1777	3849	87	5	92	2769	3316	6085	93	6	99	12	9	64	28	23
2	...	2	...	...	...	26	30	56	24	23	47	...	...	...	28	30	58	...	...	...	...	...	...	1	24
8	1	9	1	...	1	115	40	155	104	37	141	14	...	14	127	41	168	15	...	15	1	...	5	7	25
	...	...	...	...	...	23	2	25	22	2	24	...	...	...	23	2	25	...	...	...	...	...	9	1	26
0	2	12	1	...	1	230	83	313	220	83	303	18	1	19	246	86	332	19	1	20	1	...	3	...	27
1	3	4	1	...	1	108	47	155	100	35	135	2	...	2	109	50	159	3	...	3	...	...	2	1	28
2	35	68	4	...	4	733	563	1296	595	360	955	23	...	23	776	601	1377	27	...	27	1	...	13	6	29
1	1	12	4	...	4	134	45	179	117	41	158	26	...	26	149	46	195	30	...	30	1	...	3	...	30
9	1	10	2	...	2	165	59	224	149	48	197	4	...	4	175	61	236	6	...	6	1	...	1	...	31
	...	...	...	...	...	56	28	84	49	26	75	...	...	...	56	28	84	...	...	...	...	...	4	...	32
2	3	15	1	...	1	103	37	140	96	31	127	11	...	11	117	40	157	12	...	12	...	...	3	2	33
	...	...	...	...	...	10	6	16	10	6	16	1	...	1	10	7	17	1	...	1	...	...	...	...	34
	...	...	...	...	...	5	3	8	5	3	8	...	...	...	5	3	8	...	...	...	...	...	...	...	35
	...	...	...	...	...	36	9	45	36	9	45	...	...	...	37	9	46	...	...	...	1	...	...	...	36
1	...	1	2	...	2	55	24	79	52	23	75	9	...	9	56	24	80	11	...	11	...	...	2	...	37
1	...	1	2	...	2	34	3	37	32	3	35	4	...	4	55	3	38	6	...	6	...	...	...	...	38
6	...	6	1	...	1	108	31	139	97	25	122	4	...	4	116	31	147	5	...	5	2	...	6	...	39
	...	...	...	...	...	22	11	33	19	11	30	...	...	...	22	11	33	...	...	...	...	...	...	1	40
4	164	398	15	1	16	3493	2997	6490	2056	1208	3264	165	15	180	3785	3184	6969	180	16	196	16	13	72	76	41
4	1	5	...	...	...	157	29	186	145	29	174	9	...	9	161	30	191	9	...	9	...	...	...	...	42
6	8	24	5	...	5	417	101	518	372	80	452	27	2	29	442	112	554	32	2	34	...	...	7	2	43
5	16	41	...	1	1	758	257	1015	579	125	704	8	...	8	787	273	1060	8	1	9	...	...	2	1	44
7	4	11	1	...	1	111	51	162	106	50	156	11	1	12	120	57	177	12	1	13	...	1	...	2	45
	...	...	...	...	...	33	5	38	32	5	37	...	...	...	36	5	41	...	...	...	...	...	...	1	46
	2	2	...	...	...	10	6	16	9	6	15	2	...	2	10	8	18	2	...	2	...	...	...	...	47
7	...	7	...	...	...	63	3	66	61	3	64	1	...	1	70	3	73	1	...	1	...	...	...	...	48
9	14	33	3	...	3	418	209	627	361	146	507	20	...	20	445	227	672	23	...	23	1	...	7	3	49
1	...	1	...	...	...	43	41	84	42	35	77	...	...	...	44	42	86	...	...	...	...	...	...	...	50
1	1	2	...	...	...	51	8	59	46	8	54	2	...	2	53	9	62	2	...	2	...	...	5	...	51
5	32	87	1	1	2	835	413	1248	750	320	1070	36	3	39	897	447	1344	37	4	41	7	2	21	21	52
7	9	16	...	...	...	542	355	897	496	257	753	...	...	...	554	377	931	...	...	...	8	16	168	100	53
	...	...	...	...	...	104	27	131	102	27	129	...	...	...	105	28	133	...	...	...	...	...	28	10	54
2	1	3	1	...	1	48	18	66	47	17	64	6	...	6	51	20	71	7	...	7	...	...	...	...	55
1	3	4	...	...	...	49	12	61	48	12	60	3	...	3	52	17	69	3	...	3	...	...	...	...	56
	...	...	...	...	...	4	...	4	4	...	4	1	...	1	4	...	4	1	...	1	...	...	...	...	57
	...	...	...	...	...	71	6	77	65	5	70	1	...	1	71	6	77	1	...	1	...	...	...	...	58
6	1	7	...	...	...	162	27	189	143	23	166	10	...	10	170	29	199	10	...	10	...	...	6	...	59
1	...	1	...	...	...	66	21	87	62	14	76	...	...	...	67	21	88	...	...	...	...	...	15	4	60
	...	...	...	...	...	18	14	32	17	12	29	...	...	...	18	14	32	...	...	...	...	...	9	3	61
2	1	3	...	...	...	72	16	88	71	16	87	1	...	1	74	17	91	1	...	1	...	...	...	...	62
1	13	44	2	...	2	415	144	559	379	119	498	6	...	6	451	160	611	8	...	8	2	2	7	4	63
	...	...	...	...	...	64	18	82	61	17	78	...	...	...	68	18	86	...	...	...	2	...	44	13	64
1	...	1	...	...	...	16	1	17	16	1	17	2	...	2	17	1	18	2	...	2	...	...	2	...	65
1	4	5	...	...	...	56	21	77	47	19	66	7	...	7	57	27	84	7	...	7	...	...	2	...	66
1	...	1	2	...	2	44	18	62	43	18	61	7	...	7	45	19	64	9	...	9	...	...	...	...	67
2	1	3	...	...	...	31	5	36	30	5	35	1	1	2	33	6	39	1	1	2	...	...	...	...	68
2	381	723	...	...	...	329	149	478	329	149	478	...	...	...	690	537	1227	...	...	...	...	...	...	...	69
8	965	2113	71	4	75	15,441	10,326	25,767	12,383	6092	18,475	682	31	713	16,819	11,397	28,216	753	35	788	69	65	619	320	
																					134		939		

(No. IV. *Continued.*) DIGEST of RETURNS relative to PRISONS and PRISONERS in SCOTLAND,

COUNTIES.	PRISONS.	No. of Prison.	6. Average duration of Confinement of each Criminal Prisoner.	7. Average daily Number in **Confinement** during the Period.						8. Average daily Number of Cri the Four Quarters				
				Criminal.			Civil.			30th September 1863.			31st Decemb 1863.	
			Days.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.
1 Aberdeen	Aberdeen	1	17	27	21	48	5	...	5	23	19	42	33	18
	Peterhead	2	15	3	1	4	...	...	...	1	1	2	4	...
	Huntly	3	...	...	...	...	...	...	...	...	...	...	...	...
	Fraserburgh	4	...	...	...	...	...	...	...	...	...	...	...	...
2 Argyle	Inveraray	5	30	6	2	8	...	...	...	5	2	7	3	1
	Campbeltown	6	32	7	4	11	...	...	...	7	3	10	5	4
	Tobermory	7	...	...	...	...	...	...	...	...	...	...	1	...
	Lochgilphead	8	...	...	...	...	...	...	...	1	...	1	...	...
3 Ayr	Ayr	9	68	23	76	99	3	...	3	23	66	89	25	67
	Kilmarnock	10	22	11	5	16	...	...	...	12	5	17	13	4
4 Banff	Banff	11	33	6	3	9	...	...	...	9	4	13	6	3
	Keith	12	...	...	...	...	...	...	...	...	...	...	...	...
	Cullen	13	...	...	...	...	...	...	...	...	...	...	...	...
5 Berwick	Greenlaw	14	32	7	...	7	1	...	1	5	...	5	6	...
	Dunse	15	5	1	...	1	...	...	...	1	...	1	1	...
6 Bute	Rothesay	16	22	6	3	9	1	...	1	3	2	5	5	5
7 Caithness	Wick	17	27	5	2	7	4	...	4	8	2	10	3	2
8 Clackmannan	Alloa	18	24	6	2	8	...	...	...	7	2	9	7	1
9 Dumbarton	Dumbarton	19	13	9	4	13	1	...	1	8	3	11	8	3
	Kirkintilloch	20	...	...	...	...	...	...	...	...	...	...	...	...
	Helensburgh	21	5	1	...	1	...	...	...	1	...	1	1	...
10 Dumfries	Dumfries	22	15	19	6	25	2	...	2	23	7	30	20	9
11 Edinburgh	Edinburgh, including Court Buildings	23	23	188	194	382	13	2	15	211	208	419	188	200
	Musselburgh	24	13	1	1	2	...	...	...	1	2	3	...	1
12 Elgin	Elgin	25	31	10	4	14	2	...	2	7	1	8	12	2
	Forres	26	...	...	...	...	...	...	...	...	...	...	...	...
13 Fife	Cupar	27	25	17	6	23	2	...	2	22	7	29	17	7
	Dunfermline	28	21	7	2	9	1	...	1	2	3	5	8	2
14 Forfar	Dundee	29	22	50	33	83	3	...	3	47	36	83	46	31
	Forfar	30	32	13	4	17	4	...	4	11	3	14	14	3
15 Haddington	Haddington	31	20	10	3	13	1	...	1	11	3	14	10	4
	Dunbar	32	...	...	...	...	...	...	...	...	...	...	...	...
16 Inverness	Inverness	33	42	11	7	18	1	...	1	15	4	19	10	8
	Portree	34	21	1	...	1	...	...	...	...	1	1	1	...
	Lochmaddy	35	46	1	...	1	...	...	...	...	1	1	...	...
	Fort-William	36	16	1	1	2	...	...	...	1	...	1	...	1
17 Kincardine	Stonehaven	37	23	4	1	5	1	...	1	3	1	4	3	1
18 Kinross	Kinross	38	19	2	...	2	1	...	1	2	...	2	1	...
19 Kirkcudbright	Kirkcudbright	39	22	7	2	9	1	...	1	9	2	11	7	3
	Maxwelltown	40	...	...	...	...	...	...	...	...	...	...	...	...
20 Lanark	Glasgow	41	27	309	222	531	15	1	16	300	230	530	305	212
	Lanark	42	19	7	3	10	1	...	1	9	1	10	8	4
	Hamilton	43	19	22	7	29	5	...	5	27	12	39	19	6
	Airdrie	44	16	33	13	46	...	...	...	30	12	42	36	13
21 Linlithgow	Linlithgow	45	27	9	4	13	1	...	1	10	4	14	11	2
22 Nairn	Nairn	46	18	2	...	2	...	...	...	3	...	3	2	...
23 Orkney	Kirkwall	47	...	...	...	...	...	...	...	...	1	1	1	...
24 Peebles	Peebles	48	15	3	...	3	...	...	...	5	...	5	5	...
25 Perth	Perth	49	27	33	17	50	4	...	4	30	15	45	39	13
	Perth Police Cells	50	...	...	...	...	...	...	...	...	...	...	...	...
	Dunblane	51	18	2	1	3	1	...	1	2	1	3	4	1
26 Renfrew	Paisley	52	27	63	37	100	2	1	3	66	42	108	54	36
	Greenock	53	11	16	11	27	...	...	...	15	10	25	18	10
	Pollockshaws	54	3	1	...	1	...	...	...	...	...	...	2	...
27 Ross and Cromarty	Dingwall	55	31	5	1	6	1	...	1	4	1	5	6	2
	Tain	56	16	2	1	3	...	...	...	2	2	4	2	1
	Cromarty	57	...	...	...	...	...	...	...	...	...	...	...	...
	Stornoway	58	14	2	1	3	...	...	...	2	...	2	2	1
28 Roxburgh	Jedburgh	59	22	11	1	12	1	...	1	12	1	13	11	...
	Hawick	60	4	1	...	1	...	...	...	...	...	...	1	...
	Kelso	61	...	...	...	...	...	...	...	...	...	...	...	...
29 Selkirk	Selkirk	62	16	3	1	4	1	...	1	3	1	4	4	1
30 Stirling	Stirling	63	28	33	14	47	1	...	1	39	15	54	33	10
	Falkirk	64	4	1	...	1	...	...	...	1	...	1	1	...
31 Sutherland	Dornoch	65	41	2	...	2	1	...	1	2	...	2	1	...
32 Wigtown	Wigtown	66	39	5	4	9	...	...	...	2	7	9	4	6
	Stranraer	67	34	4	2	6	1	...	1	2	1	3	4	3
33 Zetland	Fort-Charlotte	68	9	1	...	1	...	...	...	1	...	1	...	...
25 Perth	General Prison	69	211	355	354	709	...	...	...	365	369	734	348	360
			32	1385	1081	2466	82	4	86	1411	1113	2524	1379	1061

r the Year ended on the **30th day of June 1864**—*continued.* (No. IV. *Continued.*)

during each of ng					9. Number at the **end** of the Period, viz., at midnight on 30th June 1864.												10. Greatest number of Criminals, Males and Females, respectively, at any one time, viz.—		No. of Prison.
					Criminal.									Civil.					
					Total.			Untried.			Convicted.								
March 64.		30th June 1864.																	
F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M	F.	T.	M.	F.	
20	45	27	26	53	30	30	60	7	...	7	23	30	53	2	...	2	41	32	1
..	4	2	1	3	1	2	3	...	...	...	1	2	3	...	...	...	9	4	2
..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	3
..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	4
2	11	8	4	12	3	6	9	2	1	3	1	5	6	...	..	...	10	7	5
4	13	6	3	9	9	4	13	2	...	2	7	4	11	...	..	...	14	6	6
..	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	2	7
..	...	...	...	...	2	...	2	...	...	...	2	...	2	...	...	...	4	1	8
77	99	22	96	118	16	103	119	3	5	8	13	98	111	...	...	...	35	108	9
6	14	10	4	14	14	8	22	5	3	8	9	5	14	...	...	...	21	10	10
2	7	5	1	6	2	1	3	2	1	3	...	...	...	1	...	1	16	6	11
..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	2	12
..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13
..	10	6	1	7	6	2	8	2	1	3	4	1	5	1	...	1	16	3	14
..	1	1	...	1	1	...	1	1	...	1	...	...	...	...	...	...	4	3	15
5	14	9	1	10	8	...	8	...	...	...	8	...	8	1	...	1	13	10	16
2	6	3	1	4	5	3	8	1	1	2	4	2	6	3	...	3	13	4	17
2	9	5	2	7	6	...	6	...	...	...	6	...	6	1	...	1	10	6	18
5	14	13	4	17	7	3	10	2	...	2	5	3	8	3	...	3	26	11	19
..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	2	20
..	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	6	2	21
6	23	17	3	20	22	6	28	4	1	5	18	5	23	3	...	3	32	14	22
68	345	176	200	376	206	204	410	33	15	48	173	189	362	13	2	15	234	250	23
1	1	...	...	...	...	1	1	...	...	...	...	1	1	...	...	...	5	6	24
7	20	7	5	12	3	4	7	...	1	1	3	3	6	3	...	3	20	12	25
..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	1	26
3	17	16	5	21	14	6	20	2	3	5	12	3	15	1	...	1	32	13	27
3	8	12	1	13	6	1	7	1	...	1	5	1	6	...	...	...	15	6	28
30	63	54	33	87	63	45	108	8	6	14	55	39	94	3	...	3	65	48	29
4	18	15	5	20	12	4	16	3	...	3	9	4	13	4	...	4	22	8	30
3	13	9	2	11	5	2	7	2	1	3	3	1	4	...	...	...	20	8	31
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	3	32
8	14	12	7	19	10	5	15	2	1	3	8	4	12	...	...	...	22	13	33
1	2	...	...	...	...	2	2	...	...	...	...	2	2	...	...	...	4	2	34
...	2	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	35
1	2	1	...	1	1	...	1	1	...	1	...	...	...	...	...	...	5	4	36
...	5	6	2	8	7	3	10	1	3	4	6	...	6	2	...	2	8	4	37
...	2	3	1	4	4	...	4	...	...	...	4	...	4	...	...	..	7	2	38
2	9	8	2	10	6	2	8	...	...	...	6	2	8	...	...	...	18	6	39
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	2	40
206	507	331	241	572	313	273	586	36	29	65	277	244	521	19	1	20	386	299	41
2	9	6	3	9	8	4	12	...	1	1	8	3	11	1	...	1	16	7	42
4	23	24	4	28	33	6	39	10	1	11	23	5	28	4	...	4	42	20	43
15	49	33	14	47	33	20	53	4	6	10	29	14	43	...	...	...	53	25	44
5	11	10	5	15	12	3	15	7	1	8	5	2	7	1	...	1	18	9	45
...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	2	46
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	3	47
...	3	1	...	1	2	...	2	...	...	...	2	...	2	1	...	1	9	1	48
20	51	31	19	50	28	19	47	7	3	10	21	16	37	2	...	2	49	26	49
...	1	...	...	...	2	2	4	2	1	3	...	1	1	...	...	...	2	2	50
...	1	1	1	2	1	3	4	...	...	...	1	3	4	...	...	...	7	3	51
36	110	58	33	91	47	35	82	3	4	7	44	31	75	5	1	6	93	59	52
11	26	16	13	29	8	10	18	2	2	4	6	8	14	...	...	...	36	21	53
1	2	2	1	3	1	1	2	...	1	1	1	...	1	...	...	...	11	4	54
...	4	4	2	6	7	3	10	4	1	5	3	2	5	...	...	...	10	5	55
2	3	2	1	3	1	1	2	...	1	1	1	...	1	...	...	...	8	5	56
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	57
1	3	1	1	2	3	1	4	1	...	1	2	1	3	1	...	1	7	3	58
1	10	12	2	14	3	4	12	2	1	3	6	3	9	1	...	1	18	4	59
...	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	7	2	60
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	2	61
1	4	3	1	4	2	...	2	1	...	1	1	...	1	...	...	...	10	4	62
13	46	29	18	47	23	16	39	2	3	5	21	13	34	1	...	1	51	25	63
...	1	...	...	...	2	...	2	2	...	2	...	...	...	...	...	...	6	3	64
...	1	2	...	2	1	...	1	...	...	...	1	...	1	...	...	...	5	1	65
4	10	6	1	7	5	1	6	...	...	...	5	1	6	1	...	1	11	11	66
4	12	3	2	5	4	2	6	3	1	4	1	1	2	...	...	...	10	5	67
...	3	1	...	1	1	...	1	...	...	...	1	...	1	1	...	1	8	3	68
351	705	354	334	688	347	336	683	21	7	28	326	329	655	...	...	...	372	388	69
1089	2411	1385	1106	2491	1361	1187	2548	191	106	297	1170	1081	2251	79	4	83			

(No. IV. *Continued.*) DIGEST of RETURNS relative to PRISONS and PRISONERS in SCOT

	COUNTIES.	PRISONS.	No. of Prison.	11. Greatest Number, including both Sexes, at any one time.						12. Least Number, i Sexes, at any o		
				Criminal.			Civil.			Criminal.		
				M.	F.	T.	M.	F.	T.	M.	F.	T.
1	Aberdeen	Aberdeen	1	39	26	65	8	...	8	18	16	34
		Peterhead	2	9	1	10	...	...	...	...	...	...
		Huntly	3	1	2	3	...	...	...	...	...	...
		Fraserburgh	4	1	1	2	...	...	...	...	...	...
2	Argyle	Inveraray	5	10	7	17	2	...	2	1	...	1
		Campbeltown	6	14	6	20	2	...	2	5	1	6
		Tobermory	7	6	...	6	...	...	...	...	...	...
		Lochgilphead	8	4	1	5	...	...	...	...	...	...
3	Ayr	Ayr	9	28	107	135	5	1	6	16	47	63
		Kilmarnock	10	17	8	25	...	...	...	3	2	5
4	Banff	Banff	11	16	5	21	1	1	2	...	...	...
		Keith	12	3	...	3	...	...	...	...	...	...
		Cullen	13	...	...	...	...	...	...	...	...	...
5	Berwick	Greenlaw	14	16	1	17	2	...	2	1	...	1
		Dunse	15	2	3	5	...	...	...	...	...	...
6	Bute	Rothesay	16	10	8	18	2	...	2	3	...	3
7	Caithness	Wick	17	13	3	16	7	...	7	...	...	...
8	Clackmannan	Alloa	18	9	5	14	1	...	1	2	1	3
9	Dumbarton	Dumbarton	19	26	3	29	3	...	3	3	4	7
		Kirkintilloch	20	5	...	5	...	...	...	...	...	...
		Helensburgh	21	6	...	6	...	...	...	...	...	...
10	Dumfries	Dumfries	22	26	13	39	5	...	5	15	...	15
11	Edinburgh	Edinburgh, including Court Buildings	23	228	250	478	20	1	21	170	141	311
		Musselburgh	24	5	4	9	...	...	...	...	...	...
12	Elgin	Elgin	25	19	7	26	6	...	6	4	1	5
		Forres	26	4	...	4	...	...	...	...	...	...
13	Fife	Cupar	27	32	9	41	7	...	7	12	1	13
		Dunfermline	28	14	3	17	2	...	2	1	2	3
14	Forfar	Dundee	29	63	46	109	5	...	5	34	21	55
		Forfar	30	22	5	27	10	...	10	8	2	10
15	Haddington	Haddington	31	20	3	23	3	...	3	4	1	5
		Dunbar	32	2	3	5	...	...	...	...	...	...
16	Inverness	Inverness	33	18	13	31	4	...	4	4	6	10
		Portree	34	4	...	4	1	...	1	...	...	...
		Lochmaddy	35	2	1	3	...	...	...	...	...	...
		Fort-William	36	3	4	7	...	...	...	...	...	...
17	Kincardine	Stonehaven	37	6	5	11	3	...	3	...	...	...
18	Kinross	Kinross	38	7	...	7	2	...	2	...	...	...
19	Kirkcudbright	Kirkcudbright	39	18	2	20	2	...	2	2	1	3
		Maxwelltown	40	3	...	3	...	...	...	...	...	...
20	Lanark	Glasgow	41	381	241	622	26	...	26	293	172	465
		Lanark	42	16	2	18	4	...	4	...	3	3
		Hamilton	43	42	16	58	8	...	8	13	3	16
		Airdrie	44	49	21	70	1	1	2	22	5	27
21	Linlithgow	Linlithgow	45	18	6	24	3	...	3	2	5	7
22	Nairn	Nairn	46	6	...	6	...	...	...	...	...	...
23	Orkney	Kirkwall	47	1	3	4	2	...	2	...	...	
24	Peebles	Peebles	48	9	1	10	1	...	1	1	...	1
25	Perth	Perth	49	49	14	63	6	...	6	18	14	32
		Perth Police Cells	50	2	1	3	...	...	...	...	...	...
		Dunblane	51	6	2	8	2	...	2	...	...	...
26	Renfrew	Paisley	52	93	43	136	7	1	8	36	33	69
		Greenock	53	36	13	49	...	...	...	11	3	14
		Pollockshaws	54	11	1	12	...	...	...	...	...	...
27	Ross & Cromarty	Dingwall	55	10	3	13	3	...	3	3	...	3
		Tain	56	4	5	9	1	...	1	...	...	...
		Cromarty	57	1	...	1	1	...	1	...	...	...
		Stornoway	58	9	...	9	1	...	1	...	...	...
28	Roxburgh	Jedburgh	59	18	1	19	2	...	2	5	2	7
		Hawick	60	7	1	8	...	...	...	...	...	...
		Kelso	61	2	2	4	...	...	...	...	...	...
29	Selkirk	Selkirk	62	10	1	11	1	...	1	...	...	...
30	Stirling	Stirling	63	51	17	68	2	...	2	28	6	34
		Falkirk	64	6	1	7	...	...	...	1	1	2
31	Sutherland	Dornoch	65	5	...	5	1	...	1	...	...	...
32	Wigtown	Wigtown	66	4	10	14	2	...	2	2	1	3
		Stranraer	67	10	5	15	3	...	3	...	1	1
33	Zetland	Fort-Charlotte	68	8	...	8	1	...	1	...	...	...
25	Perth	General Prison	69	372	384	756	...	...	...	324	323	647

Year ended on the **30th day of June 1864**—*continued.* (No. IV. *Continued.*)

Separation of Criminal Prisoners. Estimated Average daily Number.							14. Ages of Criminal Prisoners recorded on Admission during the same period (those removed, as per No. (2) of No. 5, being recorded only in the Prison of Detention.).												No. of Prison.
Not in separate Confinement but under immediate and constant Superintendence.				Neither in separate Confinement nor under immediate and constant Superintendence.			Under 16 Years.		16 Years and under 18.		18 Years and under 21.		21 Years and under 50.		50 Years and above.		Total.		
T.	M.	F.	T.	M.	F.	T.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
47	...	...	...	...	1	1	32	8	16	6	46	42	366	350	52	35	512	441	1
4	...	...	...	...	...	...	12	1	1	2	7	...	45	13	6	3	71	19	2
...	...	...	...	...	...	...	1	...	...	...	...	...	6	2	...	1	7	3	3
...	...	...	...	...	...	...	...	...	...	...	...	...	13	2	4	...	17	2	4
8	...	...	...	...	...	...	5	2	1	...	9	4	41	11	5	3	61	20	5
6	3	2	5	...	...	...	6	3	4	2	10	...	60	11	11	9	91	25	6
...	...	...	...	...	...	...	8	...	1	...	...	...	5	1	2	...	16	1	7
...	...	...	...	...	...	...	1	...	...	...	1	...	8	1	3	...	13	1	8
78	...	21	21	...	...	...	14	4	6	9	26	21	178	133	10	16	234	183	9
12	...	...	...	3	1	4	7	3	3	1	24	4	117	54	8	5	159	67	10
9	...	...	...	...	...	...	10	...	7	1	6	2	39	11	2	1	64	15	11
...	...	...	...	...	...	...	...	...	...	...	2	...	1	2	...	...	3	2	12
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13
7	...	...	...	...	...	...	...	...	5	1	5	...	45	8	4	1	59	10	14
1	...	...	...	...	...	...	5	...	...	...	...	1	29	7	...	...	34	8	15
6	2	1	3	...	...	...	5	2	8	1	17	1	74	19	7	13	111	36	16
7	...	..	...	...	...	...	1	1	8	1	5	4	46	10	8	...	68	16	17
8	...	...	...	...	...	...	6	...	1	1	7	5	49	26	8	8	71	40	18
3	...	...	...	...	...	...	27	...	16	4	55	2	160	46	17	15	275	67	19
..	...	...	...	...	...	...	...	...	...	...	2	2	20	8	2	1	24	11	20
1	...	...	...	..	...	...	7	2	2	...	3	1	36	5	6	3	54	11	21
5	...	...	...	...	...	...	23	3	9	4	25	14	254	133	73	30	384	184	22
3	...	...	...	21	108	129	103	31	92	105	320	508	1691	2228	291	238	2497	3110	23
2	...	...	...	...	...	...	...	...	1	...	1	1	22	25	2	3	26	29	24
8	...	...	...	4	2	6	17	1	17	2	15	4	55	22	6	4	110	33	25
...	...	...	...	...	...	...	4	...	...	...	1	...	8	1	1	...	14	1	26
3	...	...	...	...	...	...	34	1	7	4	29	3	138	63	19	12	227	83	27
9	...	...	...	...	...	...	7	2	8	1	15	...	63	26	13	17	106	46	28
7	...	6	6	...	...	...	54	7	36	15	72	45	505	447	53	43	720	557	29
7	...	...	...	...	...	...	8	1	1	...	17	3	95	33	10	7	131	44	30
3	...	...	...	...	...	...	13	2	9	...	24	2	99	50	19	5	164	59	31
...	...	...	...	...	...	...	2	5	2	3	5	3	35	13	8	4	52	28	32
8	...	...	...	...	...	...	15	1	10	...	9	4	58	27	8	3	100	35	33
1	...	...	...	...	...	...	1	...	...	...	3	...	6	5	...	1	10	6	34
1	...	...	...	...	...	...	...	...	...	1	1	...	4	2	...	...	5	3	35
2	...	...	...	...	...	...	2	1	...	...	4	1	25	6	5	1	36	9	36
5	...	...	...	...	...	...	3	1	2	1	6	1	37	19	5	2	53	24	37
2	...	...	...	...	...	...	3	...	1	...	11	...	17	2	2	1	34	3	38
9	...	...	...	...	...	...	5	1	2	...	11	2	72	21	12	7	102	31	39
..	...	...	...	...	...	...	...	1	2	...	2	2	14	4	4	3	22	10	40
8	8	85	93	58	22	80	136	44	195	140	516	441	2345	2089	229	207	3421	2921	41
0	...	...	...	...	...	...	5	1	4	1	14	4	119	23	15	...	157	29	42
3	2	2	4	1	1	2	8	3	4	2	41	7	337	76	20	11	410	99	43
1	3	2	5	...	...	...	41	16	59	23	121	34	493	169	42	14	756	256	44
3	...	...	...	...	...	...	7	9	3	2	9	3	83	33	9	2	111	49	45
2	...	...	...	...	...	...	8	...	2	...	4	...	17	5	2	...	33	5	46
..	...	...	...	...	...	...	2	1	...	1	1	1	7	3	...	...	10	6	47
3	...	...	...	...	...	...	...	...	2	...	4	...	52	3	5	...	63	3	48
4	6	...	6	...	...	...	23	2	17	11	57	6	280	173	34	14	411	206	49
..	...	...	...	...	...	...	4	...	...	1	2	1	30	33	7	6	43	41	50
3	...	...	...	...	...	...	2	...	...	...	5	...	37	7	2	1	46	8	51
8	6	6	12	...	...	...	39	7	28	10	92	53	593	296	62	26	814	392	52
4	...	3	3	...	...	...	18	3	10	11	44	24	23	15	279	202	374	255	53
1	...	...	...	...	...	...	6	1	2	...	8	3	54	12	6	1	76	17	54
6	...	...	...	...	...	...	6	2	6	1	10	1	24	13	2	1	48	18	55
3	...	...	...	...	...	...	3	2	2	1	6	...	32	8	6	1	49	12	56
..	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	4	...	57
3	...	...	...	...	...	...	25	...	3	2	8	2	35	2	...	...	71	6	58
2	...	...	...	...	...	...	18	1	8	1	13	2	89	20	28	3	156	27	59
1	...	...	...	...	...	...	3	...	2	...	...	2	42	13	4	2	51	17	60
..	...	...	...	...	...	...	3	...	...	...	...	...	4	8	2	3	9	11	61
4	...	...	...	...	...	...	7	...	3	1	4	...	50	12	8	3	72	16	62
38	...	...	...	6	3	9	26	6	19	5	36	12	280	102	47	15	408	140	63
1	...	...	...	...	...	...	...	...	2	...	3	...	14	5	1	...	20	5	64
2	...	...	...	...	...	...	...	...	...	...	1	...	11	1	2	...	14	1	65
9	...	...	...	...	...	...	6	...	2	...	4	4	35	14	7	3	54	21	66
6	...	...	...	...	...	...	2	1	2	2	5	3	26	9	9	3	44	18	67
1	...	...	...	...	...	...	2	1	1	...	6	1	19	2	3	1	31	5	68
33	34	22	56	10	50	60	10	1	15	5	59	21	231	112	14	10	329	149	69
611	64	150	214	103	188	291	851	185	669	385	1869	1307	9902	7105	1531	1024	14,822	10,006	
2466							1036		1054		3176		17,007		2555		24,828		

(No. IV. *Continued.*) DIGEST of RETURNS relative to PRISONS and PRISONERS in SCOTLAN

	COUNTIES.	PRISONS.	No. of Prison.	15. Previous Imprisonments in the same Prison of Criminal Prisoners received during the Pe																	
				Once before.		Twice.		Three Times.		Four Times.		Five Times.		6 times and under 10.		10 times and under 20		20 times and under 50.		50 times and upwards.	
				M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1	Aberdeen	Aberdeen	1	51	41	33	34	21	25	26	20	21	10	31	36	37	60	23	69	...	9
		Peterhead	2	15	3	3	2	1	3	1	1	...	...	...	1	...	...	...	...	...	...
		Huntly	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Fraserburgh	4	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
2	Argyle	Inveraray	5	2	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Campbeltown	6	19	3	8	3	2	...	1	1	3	2	3	5	1	1	...	...	...	...
		Tobermory	7	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Lochgilphead	8	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	Ayr	Ayr	9	29	18	12	14	5	8	6	3	2	2	6	6	1	5	...	...	...	...
		Kilmarnock	10	18	11	9	4	9	4	5	4	4	2	2	6	2	1	...	...	...	...
4	Banff	Banff	11	6	...	3	...	3	...	1	1	...	...	...	1	...	1	...	...	...	...
		Keith	12	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Cullen	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5	Berwick	Greenlaw	14	6	1	5	1	3	1	1	...	1	...	1	...	2	...	3	...	...	...
		Dunse	15	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	Bute	Rothesay	16	14	3	5	4	1	2	2	2	1	2	2	1	...	...	...	...	...	...
7	Caithness	Wick	17	8	1	2	1	...	1	...	...	1	...	...	...	...	...	...	...	...	...
8	Clackmannan	Alloa	18	8	7	2	3	1	1	2	1	2	...	4	2	...	...	...	...	...	...
9	Dumbarton	Dumbarton	19	32	12	16	6	7	1	2	1	1	...	5	6	2	1	...	3	...	...
		Kirkintilloch	20	1	1	1	...	1	...	...	1	1	1	...	...	1	1	...	...	...	...
		Helensburgh	21	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	Dumfries	Dumfries	22	51	18	28	12	17	10	10	13	10	9	22	23	21	13	9	14	...	...
11	Edinburgh	Edinburgh, including Court Buildings	23	385	383	216	244	150	155	101	126	63	95	164	342	142	410	27	440	14	169
		Musselburgh	24	5	6	2	2	...	1	...	...	1	...	...	3	...	1	...	...	...	...
12	Elgin	Elgin	25	24	6	9	...	3	...	2	...	3	...	1	2	...	...	...	...	...	...
		Forres	26	3	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
13	Fife	Cupar	27	24	13	10	2	4	3	2	4	3	3	9	...	...	...	...	1	...	...
		Dunfermline	28	8	7	8	2	3	...	4	1	3	1	1	1	...	...	...	...	...	...
14	Forfar	Dundee	29	103	84	51	36	33	29	29	28	20	17	46	61	37	71	8	29	...	40
		Forfar	30	24	6	8	2	3	2	6	1	4	...	1	...	...	...	...	...	...	...
15	Haddington	Haddington	31	25	8	10	3	3	2	3	2	1	...	12	3	1	3	...	3	...	...
		Dunbar	32	11	6	2	3	1	...	3	1	2	1	3	1	3	...	3	...	...	...
16	Inverness	Inverness	33	16	2	6	4	4	1	3	1	1	2	1	1	1	...	...	3	...	...
		Portree	34	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Lochmaddy	35	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Fort-William	36	5	2	3	1	1	...	...	...	...	...	2	...	...	...	...	...	...	...
17	Kincardine	Stonehaven	37	7	6	4	...	1	...	3	...	1	..	...	...	2	...	...	...	...	...
18	Kinross	Kinross	38	5	...	4	...	2	...	1	...	2	...	1	1	...	...	...	...	...	...
19	Kirkcudbright	Kirkcudbright	39	19	4	8	1	8	1	8	2	1	1	3	3	1	...	...	...	...	...
		Maxwelltown	40	2	4	...	1	2	1	...	1	1	...	1	...	...	...	...	...	...	...
20	Lanark	Glasgow	41	708	585	333	332	157	286	85	137	45	127	78	236	56	137	17	50	...	...
		Lanark	42	20	2	9	1	1	...	3	...	1	...	10	...	2	...	2	...	...	...
		Hamilton	43	60	14	19	5	10	3	3	3	3	1	13	16	10	2	9	2	...	...
		Airdrie	44	96	36	31	12	14	9	8	7	5	7	7	17	5	22	13	17	...	5
21	Linlithgow	Linlithgow	45	18	3	2	2	3	2	...	...	1	1	1	1	...	1	...	...	...	...
22	Nairn	Nairn	46	4	...	1	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...
23	Orkney	Kirkwall	47	1	2	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
24	Peebles	Peebles	48	8	1	3	...	1	...	1	...	1	...	...	...	...	...	...	...	...	...
25	Perth	Perth	49	67	18	31	9	20	10	17	5	14	4	18	10	14	13	...	33	...	20
		Perth Police Cells	50	...	...	1	2	...	1	...	1	...	...	...	...	...	...	...	...	...	...
		Dunblane	51	3	1	1	...	2	...	2	...	1	1	1	...	...	...	...	...	...	...
26	Renfrew	Paisley	52	99	50	49	45	32	25	22	17	14	10	32	28	22	25	10	11	...	19
		Greenock	53	53	49	29	26	12	18	8	18	7	14	10	44	11	34	4	20	...	2
		Pollockshaws	54	3	2	3	...	1	...	...	...	2	...	...	...	...	...	...	...	...	...
27	Ross & Cromarty	Dingwall	55	3	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Tain	56	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Cromarty	57	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Stornoway	58	8	1	3	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...
28	Roxburgh	Jedburgh	59	12	1	12	1	7	...	6	...	3	...	1	3	5	1	3	...	...	...
		Hawick	60	6	1	4	...	4	1	...	1	2	2	3	4	...	...	...	...	...	...
		Kelso	61	1	4	...	...	...	1	1	...	2	1	...	...	...	...	...	...	...	...
29	Selkirk	Selkirk	62	10	...	1	...	3	...	...	...	...	...	1	...	1	...	...	...	...	...
30	Stirling	Stirling	63	59	16	21	10	20	10	13	4	4	5	9	5	3	5	...	2	...	...
		Falkirk	64	13	3	3	5	9	1	4	...	...	...	...	...	...	...	...	...	...	...
31	Sutherland	Dornoch	65	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
32	Wigtown	Wigtown	66	10	2	5	...	3	1	3	...	...	2	2	1	...	...	...	...	...	...
		Stranraer	67	4	4	1	2	...	...	3	...	1	...	...	...	...	...	...	...	...	...
33	Zetland	Fort-Charlotte	68	4	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	Perth	General Prison	69	74	38	12	3	1	1	...	...	...	...	...	...	...	...	...	...	...	...
				2281	1495	1050	843	591	621	401	409	259	328	507	871	384	808	131	697	14	264
				3776		1893		1212		810		582		1378		1192		828		278	

for the Year ended on the **30th day of June 1864**—*continued.* (No. IV. *Continued.*)

Prisoners received the period in Local who had been in the Prison, in so far as known.				17. Sentences of Criminal Prisoners **convicted** during the Period.																No. of Prison
				(1.) To Imprisonment for Definite Periods.										(2.) Imprisonment for Indefinite Periods, and not included in the preceding Classes of Imprisonment for Definite Periods.						
More than once.		Total.		10 Days and under.		11 Days and not above 60 Days.		Above 60 Days and under 6 Months.		6 Months and under 1 Year.		1 Year and upwards.		Total.		Until Caution be found to keep the Peace after Conviction on Criminal Charge.		Until, or instead of Payment of Fine or Penalty on Conviction of Offence, prosecuted for the Public Interest.		Total.		
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1	2	18	14	208	247	135	102	13	10	...	6	...	...	356	365	3	...	81	45	84	45	1
...	...	...	...	19	4	11	6	...	...	...	...	...	...	30	10	2	...	32	10	34	10	2
...	...	...	...	7	3	...	...	...	...	...	...	...	...	7	3	...	...	...	...	...	...	3
...	...	...	...	14	2	...	...	...	...	...	...	...	...	14	2	...	...	...	...	...	...	4
...	...	...	...	22	4	20	9	3	2	...	2	...	...	45	17	...	...	...	...	...	...	5
...	1	2	1	29	8	41	10	9	4	2	1	...	1	81	24	...	...	...	...	...	...	6
...	...	...	...	11	...	5	1	...	...	...	...	...	...	16	1	...	...	...	...	...	...	7
...	...	...	...	3	...	9	1	...	...	...	...	...	...	12	1	1	...	...	...	1	...	8
...	3	5	7	44	22	57	34	12	11	6	5	...	...	119	72	63	41	6	1	69	42	9
...	...	1	1	6	4	40	30	4	2	...	...	...	...	50	36	...	...	54	22	54	22	10
1	...	2	1	10	2	13	6	13	1	...	...	...	...	36	9	...	...	...	...	...	...	11
...	...	...	...	3	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	12
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13
...	...	...	...	4	1	39	7	9	1	...	...	...	...	52	9	...	...	...	...	...	...	14
...	...	...	...	12	2	5	1	...	...	...	...	...	...	17	3	...	...	7	3	7	3	15
...	...	...	...	7	1	19	8	2	2	6	2	...	...	34	13	...	...	64	20	64	20	16
...	...	...	...	12	1	25	9	2	...	...	1	3	1	42	12	...	...	...	...	...	...	17
...	...	1	1	18	24	36	14	4	...	1	...	...	...	59	38	...	...	1	...	1	...	18
...	...	4	3	142	36	47	20	3	1	...	2	...	...	192	59	...	...	...	...	...	...	19
...	...	...	...	6	10	...	...	...	...	...	...	...	...	6	10	...	...	18	1	18	1	20
...	...	...	...	45	9	6	...	...	...	...	...	...	...	51	9	...	...	...	...	...	...	21
1	...	7	2	219	99	116	55	7	...	6	...	...	...	348	154	...	...	...	...	...	...	22
11	12	57	69	217	244	922	1086	38	14	25	16	1	...	1198	1360	192	160	1017	1538	1209	1698	23
...	...	...	...	12	19	14	11	...	...	...	...	...	...	26	30	...	...	...	...	...	...	24
1	1	3	1	...	...	27	12	4	1	...	...	...	...	31	13	1	...	64	12	65	12	25
...	...	...	...	7	1	...	...	...	...	...	...	...	...	7	1	...	...	7	...	7	...	26
...	...	3	1	53	22	111	47	7	2	3	...	2	...	176	71	...	...	...	...	...	...	27
...	...	2	...	33	14	46	27	5	...	...	...	...	...	84	41	...	...	...	...	...	...	28
...	...	13	15	123	164	152	147	16	4	6	4	...	...	297	319	19	...	275	203	294	203	29
...	...	5	2	17	15	56	14	5	2	3	...	...	...	81	31	...	...	...	...	...	...	30
...	...	4	...	9	5	66	23	2	1	2	...	...	...	79	29	1	...	66	29	67	29	31
...	...	...	...	22	18	1	...	...	...	...	...	...	...	23	18	...	...	...	...	...	...	32
1	...	2	2	11	...	60	23	12	2	1	5	4	2	88	32	...	...	...	1	...	1	33
...	...	...	...	2	1	3	2	...	...	...	...	...	...	5	3	...	...	...	...	...	...	34
...	...	...	...	...	...	1	2	...	...	...	...	...	...	1	2	...	...	1	...	1	...	35
...	...	...	...	8	3	12	3	...	...	...	...	...	...	20	6	...	...	...	...	...	...	36
...	...	2	...	1	3	13	4	2	...	...	...	...	...	16	7	4	2	19	13	23	15	37
...	...	...	...	...	...	7	1	2	...	1	...	...	...	10	1	1	...	21	...	22	...	38
...	...	3	1	9	2	21	5	13	3	4	1	1	...	48	11	...	...	38	16	38	16	39
...	...	...	...	14	7	7	3	...	...	...	...	...	...	21	10	...	...	...	...	...	...	40
8	5	44	52	26	22	1144	855	72	32	90	51	...	1	1332	961	...	...	1869	1842	1869	1842	41
...	...	3	...	19	1	40	14	4	1	...	2	...	...	63	18	...	...	62	5	62	5	42
...	...	6	1	144	26	192	57	9	1	2	...	...	...	347	84	2	...	4	...	6	...	43
...	...	2	2	223	98	383	117	9	2	2	1	...	...	617	218	...	...	4	...	4	...	44
...	...	1	...	11	13	48	22	3	1	...	1	...	...	62	37	2	...	22	3	24	3	45
...	...	...	1	4	3	6	1	...	...	...	...	...	...	10	4	4	...	14	...	18	...	46
...	...	...	...	3	3	3	3	...	...	...	...	...	...	6	6	...	...	...	...	...	...	47
...	...	...	...	41	2	17	1	1	...	...	...	...	...	59	3	...	...	...	...	...	...	48
2	2	16	7	51	36	265	155	22	...	7	1	...	...	345	192	...	...	2	...	2	...	49
...	...	...	...	41	40	...	...	...	...	...	...	...	...	41	40	...	...	...	...	...	...	50
...	...	...	1	8	...	24	5	...	...	...	...	...	...	32	5	1	...	...	...	1	...	51
...	4	15	11	51	27	253	182	64	8	9	11	...	1	377	229	3	...	350	129	353	129	52
...	...	6	8	36	31	49	65	...	...	...	...	...	...	85	96	...	...	194	151	194	151	53
...	...	...	...	5	5	...	...	...	...	...	...	...	...	5	5	...	...	58	10	58	10	54
...	1	...	1	11	6	11	2	6	2	1	1	...	...	29	11	...	...	...	...	...	...	55
...	...	...	...	19	1	14	8	...	...	...	...	...	...	33	9	...	...	...	...	...	...	56
...	...	...	...	3	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	57
...	...	...	...	36	...	12	3	2	...	...	...	...	...	50	3	...	...	13	1	13	1	58
...	...	...	1	15	5	44	6	5	2	3	1	6	...	73	14	...	...	...	...	...	...	59
...	...	...	1	49	14	...	...	...	...	...	...	...	...	49	14	1	...	1	1	2	1	60
...	...	...	...	9	11	...	...	...	...	...	...	...	...	9	11	...	...	...	...	...	...	61
...	...	...	...	30	9	30	7	...	...	...	...	...	...	60	16	...	...	...	...	...	...	62
...	1	6	3	41	4	106	48	12	5	11	5	...	...	170	62	8	...	193	61	201	61	63
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	64
...	...	...	...	6	1	4	...	...	...	1	...	2	...	13	1	...	...	...	...	...	...	65
1	...	3	...	9	7	17	6	12	3	1	1	...	...	39	17	...	...	...	...	...	...	66
...	...	...	...	4	4	21	8	1	2	1	1	...	...	27	15	...	...	...	...	...	...	67
...	...	1	...	21	4	...	...	...	...	...	...	...	...	21	4	...	...	...	...	...	...	68
...	...	...	...	...	...	...	...	...	...	73	38	161	80	234	118	...	...	...	...	...	...	69
22	32	237	210	2295	1370	4826	3288	404	122	267	159	180	86	7972	5025	308	203	4557	4117	4865	4320	
54		447		3665		8114		526		426		266		12,997		511		8674		9185		

* Those who were merely received into the Local Prisons to be transferred to the General Prison, and are thus entered in the previous Table as re-mitted to the General Prison, are not included under this head.

(No. IV. *Continued.*) DIGEST of RETURNS relative to PRISONS and PRISONERS in SCOTLA

	COUNTIES.	PRISONS.	No. of Prison.	17—*contd.* Sentences of Criminal Prisoners, &c.—*contd.* (3.) To Penal Servitude.		(4.) To Death.		(5.) Sentences of Male Juveniles to Whipping without Imprisonment.	18. Grand Total of Sentences.		19. Sentences of Male Juveniles to Whipping in addition to Imprisonment, as in No. 17.	20. Sentences to H 10 Days and under.		Da abo
				M.	F.	M.	F.	M.	M.	F.	M.	M.	F.	M
1	Aberdeen	Aberdeen	1	6	9	...	...	...	446	419	...	6	...	
		Peterhead	2	...	...	...	...	...	64	20	...	...	...	
		Huntly	3	...	...	...	...	...	7	3	...	...	...	
		Fraserburgh	4	...	...	...	...	...	14	2	...	...	...	
2	Argyle	Inveraray	5	3	...	...	...	...	48	17	...	...	...	
		Campbeltown	6	...	...	...	...	...	81	24	...	...	...	
		Tobermory	7	...	...	...	...	...	16	1	...	...	...	
		Lochgilphead	8	...	...	...	...	...	13	1	...	1	...	
3	Ayr	Ayr	9	6	...	...	...	...	194	114	...	11	5	1
		Kilmarnock	10	...	...	...	...	...	104	58	...	1	...	
4	Banff	Banff	11	...	...	...	...	...	36	9	...	...	...	
		Keith	12	...	...	...	...	...	3	...	...	...	...	
		Cullen	13	...	...	...	...	...	...	...	...	...	...	
5	Berwick	Greenlaw	14	...	...	...	...	...	52	9	...	...	...	1
		Dunse	15	...	...	...	...	3	27	6	...	...	...	
6	Bute	Rothesay	16	...	...	...	...	...	98	33	...	...	...	
7	Caithness	Wick	17	...	...	...	...	...	42	12	...	...	...	
8	Clackmannan	Alloa	18	..	...	...	...	...	60	38	...	1	...	
9	Dumbarton	Dumbarton	19	...	...	...	...	...	192	59	...	...	...	
		Kirkintilloch	20	...	...	...	...	...	24	11	...	...	...	
		Helensburgh	21	...	...	...	...	...	51	9	...	...	...	
10	Dumfries	Dumfries	22	4	1	...	...	2	354	155	3	5	1	2
11	Edinburgh	Edinburgh, including Court Buildings	23	31	18	1	...	...	2,439	3,076	...	8	11	34
		Musselburgh	24	...	...	...	...	...	26	30	...	...	...	
12	Elgin	Elgin	25	...	...	...	...	...	96	25	...	...	...	
		Forres	26	...	...	...	...	...	14	1	...	...	...	
13	Fife	Cupar	27	...	...	...	...	15	191	71	...	...	...	
		Dunfermline	28	...	...	...	...	...	84	41	...	...	...	
14	Forfar	Dundee	29	...	...	...	...	17	608	522	3	194	182	
		Forfar	30	...	...	...	...	...	81	31	...	...	...	
15	Haddington	Haddington	31	..	...	...	...	...	146	58	...	...	...	1
		Dunbar	32	...	...	...	...	...	23	18	...	...	...	
16	Inverness	Inverness	33	2	1	...	...	...	90	34	5	4	...	
		Portree	34	...	...	...	...	...	5	3	...	...	...	
		Lochmaddy	35	...	...	...	...	...	2	2	...	1	...	
		Fort-William	36	...	...	...	...	...	20	6	...	...	...	
17	Kincardine	Stonehaven	37	...	...	...	..	...	39	22	...	...	...	
18	Kinross	Kinross	38	...	...	...	...	...	32	1	...	...	...	
19	Kirkcudbright	Kirkcudbright	39	...	...	...	...	...	86	27	...	5	...	1
		Maxwelltown	40	...	...	...	...	...	21	10	...	9	5	
20	Lanark	Glasgow	41	72	42	1	...	...	3,274	2,845	...	1	...	3
		Lanark	42	...	...	...	...	...	125	23	...	...	...	
		Hamilton	43	...	...	...	...	...	353	84	...	...	...	6
		Airdrie	44	...	...	...	...	...	621	218	...	4	...	7
21	Linlithgow	Linlithgow	45	...	...	...	...	...	86	40	...	1	...	1
22	Nairn	Nairn	46	...	...	...	...	...	28	4	...	...	...	
23	Orkney	Kirkwall	47	...	...	...	...	...	6	6	...	...	...	
24	Peebles	Peebles	48	...	...	...	...	...	59	3	...	...	...	
25	Perth	Perth	49	21	14	...	...	...	368	206	...	3	...	
		Perth Police Cells	50	...	...	...	...	...	41	40	...	...	...	
		Dunblane	51	...	...	...	...	...	33	5	...	...	...	
26	Renfrew	Paisley	52	...	...	...	...	...	730	358	...	...	...	1
		Greenock	53	...	...	...	...	...	279	247	...	...	...	
		Pollockshaws	54	...	...	...	...	...	63	15	...	...	...	
27	Ross and Cromarty	Dingwall	55	...	...	...	...	...	29	11	...	1	...	
		Tain	56	...	...	...	...	...	33	9	...	...	...	
		Cromarty	57	...	...	...	...	...	3	...	...	...	...	
		Stornoway	58	...	...	...	...	...	63	4	...	...	...	
28	Roxburgh	Jedburgh	59	1	...	...	...	...	74	14	1	5	1	6
		Hawick	60	...	...	...	...	...	51	15	...	...	...	
		Kelso	61	...	...	...	...	...	9	11	...	9	11	
29	Selkirk	Selkirk	62	...	...	...	...	...	60	16	...	...	...	4
30	Stirling	Stirling	63	1	5	...	...	...	372	128	3	6	...	6
		Falkirk	64	...	...	...	...	...	...	...	...	...	...	
31	Sutherland	Dornoch	65	...	...	...	...	...	13	1	...	...	...	1
32	Wigtown	Wigtown	66	...	...	...	...	...	39	17	...	...	...	
		Stranraer	67	...	...	...	...	...	27	15	...	...	...	
33	Zetland	Fort-Charlotte	68	...	...	...	...	...	21	4	...	...	...	17
25	Perth	General Prison	69	...	...	...	...	...	234	118	...	...	...	
				147	90	2	...	87	13,023	9435	15	276	216	801
				237		2			22,458			492		

for the Year ended on the 30th day of June 1864—*continued.* (No. IV. *Continued.*)

n to Imprisonment,					21, Insane Prisoners.														
							Received during the period, viz.,												
Days ler hs.	6 Months and upwards.		Total.		In Prison at commencement of period.		Committed as dangerous Lunatics.		Found by the Court to be unfit for Trial.		On Trial found to have been Insane.		Became Insane after Commitment to Prison.		Other Descriptions.		Total.		No. of Prison.
F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
...	...	...	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	5
...	...	...	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7
...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8
1	...	...	29	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9
...	...	...	5	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	10
...	...	...	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13
...	...	...	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15
...	2	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16
...	...	...	6	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	17
...	...	...	9	...	...	...	1	1	1	...	...	...	...	...	...	...	2	1	18
...	...	...	1	...	...	...	4	2	...	...	...	...	...	...	...	...	4	2	19
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	20
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21
...	...	...	27	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22
...	7	...	369	580	...	...	...	...	1	...	...	...	...	...	...	1	1	1	23
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24
...	...	...	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	25
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	26
...	...	...	7	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	27
...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	28
...	...	...	202	200	...	...	...	...	1	...	...	...	1	...	...	...	2	...	29
...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	30
...	...	...	17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	31
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	32
...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	33
...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	34
...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	35
...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	2	...	36
...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	37
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	38
2	4	...	33	3	...	...	...	1	...	...	...	...	...	...	...	...	...	1	39
...	...	...	16	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	40
...	...	...	40	...	...	...	...	...	...	...	...	...	3	...	...	...	3	...	41
...	...	...	5	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	42
...	...	...	75	13	...	...	...	2	...	...	...	...	...	...	...	...	...	2	43
2	...	...	97	4	..	...	...	...	...	...	...	...	...	...	...	...	...	...	44
...	...	...	23	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	45
...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	46
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	47
...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	48
...	5	...	15	...	2	...	3	1	...	...	...	...	...	...	...	...	5	1	49
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	50
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	51
...	...	...	50	...	...	...	2	...	...	...	...	...	...	...	...	...	2	...	52
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	53
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	54
...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	55
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	56
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	57
...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	58
...	...	...	13	2	...	...	...	...	...	...	2	1	...	...	...	...	2	1	59
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	60
...	...	...	9	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	61
...	...	...	4	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	62
1	13	3	97	10	...	...	2	...	...	...	...	...	...	...	...	...	2	...	63
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	64
...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	65
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	66
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	67
...	...	...	17	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	68
1	26	3	31	4	19	11	...	...	...	...	...	...	2	1	...	...	21	12	69
7	57	6	1275	865	22	11	19	7	4	...	2	1	6	1	1	2	54	22	
	63		2140		33		26		4		3		7		3		76		

(No. IV. *Continued.*) DIGEST of RETURNS relative to PRISONS and PRISONERS in SCOTLAN

	COUNTIES.	PRISONS.	No. of Prison.	21—*continued.* Insane Prisoners—*continued.*												R son in Ta I P u w
				Died.		Discharged.		Removed to Lunatic Asylum.		In Prison at the end of the Period.		Total.		Whereof received during the period into the Department of the General Prison for Criminal Lunatics.		
				M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1	Aberdeen	Aberdeen	1	...	...	...	...	...	...	...	...	...	...	...	...	
		Peterhead	2	...	...	...	...	...	...	...	...	...	...	...	...	
		Huntly	3	...	...	...	...	...	...	...	...	...	...	...	...	
		Fraserburgh	4	...	...	...	...	...	...	...	...	...	...	...	...	
2	Argyle	Inveraray	5	...	...	...	...	...	1	...	...	...	1	...	...	
		Campbeltown	6	...	...	...	...	...	...	...	...	...	...	...	...	
		Tobermory	7	...	...	...	...	...	...	...	...	...	...	...	...	
		Lochgilphead	8	...	...	...	...	...	...	...	...	...	...	...	...	
3	Ayr	Ayr	9	...	...	...	...	...	...	...	...	...	...	...	...	
		Kilmarnock	10	...	...	...	...	1	...	...	...	1	...	...	...	
4	Banff	Banff	11	...	...	...	...	...	...	...	...	...	...	...	...	
		Keith	12	...	...	...	...	...	...	...	...	...	...	...	...	
		Cullen	13	...	...	...	...	...	...	...	...	...	...	...	...	
5	Berwick	Greenlaw	14	...	...	...	...	...	...	...	...	...	...	...	...	
		Dunse	15	...	...	...	...	...	...	...	...	...	...	...	...	
6	Bute	Rothesay	16	...	...	...	...	...	...	...	...	...	...	...	...	
7	Caithness	Wick	17	...	...	...	...	1	...	...	...	1	...	...	...	
8	Clackmannan	Alloa	18	...	...	...	...	1	1	...	...	1	1	1	...	
9	Dumbarton	Dumbarton	19	...	...	1	...	3	2	...	...	4	2	...	...	
		Kirkintilloch	20	...	...	...	...	...	...	...	...	...	...	...	...	
		Helensburgh	21	...	...	...	...	...	...	...	...	...	...	...	...	
10	Dumfries	Dumfries	22	...	...	...	...	...	...	...	...	...	...	...	...	
11	Edinburgh	Edinburgh, including Court Buildings	23	...	...	...	1	...	...	...	...	...	1	1	...	
		Musselburgh	24	...	...	...	...	...	...	...	...	...	...	...	...	
12	Elgin	Elgin	25	...	...	...	...	...	...	...	...	...	...	...	...	
		Forres	26	...	...	...	...	...	...	...	...	...	...	...	...	
13	Fife	Cupar	27	...	...	...	...	...	...	...	...	...	...	...	...	
		Dunfermline	28	...	...	...	...	...	...	...	...	...	...	...	...	
14	Forfar	Dundee	29	...	...	2	...	...	...	...	...	2	...	...	...	
		Forfar	30	...	...	...	...	...	...	...	...	...	...	...	...	
15	Haddington	Haddington	31	...	...	...	...	...	...	...	...	...	...	...	...	
		Dunbar	32	...	...	...	...	...	...	...	...	...	...	...	...	
16	Inverness	Inverness	33	...	...	...	...	...	...	...	...	...	...	...	...	
		Portree	34	...	...	1	...	...	...	...	...	1	...	...	...	
		Lochmaddy	35	...	...	...	...	1	...	...	...	1	...	...	...	
		Fort-William	36	...	...	...	...	2	...	...	...	2	...	...	...	
17	Kincardine	Stonehaven	37	...	...	...	...	...	...	...	...	...	...	...	...	
18	Kinross	Kinross	38	...	...	...	...	...	...	...	...	...	...	...	...	
19	Kirkcudbright	Kirkcudbright	39	...	...	...	...	...	1	...	...	...	1	...	...	
		Maxwelltown	40	...	...	...	...	...	...	...	...	...	...	...	...	
20	Lanark	Glasgow	41	...	...	...	...	2	...	1	...	3	...	...	...	
		Lanark	42	...	...	...	...	...	...	...	...	...	...	...	...	
		Hamilton	43	...	...	...	...	...	2	...	...	...	2	...	...	
		Airdrie	44	...	...	...	...	...	...	...	...	...	...	...	...	
21	Linlithgow	Linlithgow	45	...	...	...	...	...	...	...	...	...	...	...	...	
22	Nairn	Nairn	46	...	...	...	...	1	...	...	...	1	...	...	...	
23	Orkney	Kirkwall	47	...	...	...	...	...	...	...	...	...	...	...	...	
24	Peebles	Peebles	48	...	...	...	...	...	...	...	...	...	...	...	...	
25	Perth	Perth	49	...	...	2	...	3	1	...	...	5	1	...	...	
		Perth Police Cells	50	...	...	...	...	...	...	...	...	...	...	...	...	
		Dunblane	51	...	...	...	...	...	...	...	...	...	...	...	...	
26	Renfrew	Paisley	52	...	...	...	...	2	...	...	...	2	...	...	...	
		Greenock	53	...	...	...	...	...	...	...	...	...	...	...	...	
		Pollockshaws	54	...	...	...	...	...	...	...	...	...	...	...	...	
27	Ross and Cromarty	Dingwall	55	...	...	...	...	...	...	...	...	...	...	...	...	
		Tain	56	...	...	...	...	...	...	...	...	...	...	...	...	
		Cromarty	57	...	...	...	...	...	...	...	...	...	...	...	...	
		Stornoway	58	...	...	1	...	...	...	...	...	1	...	...	...	
28	Roxburgh	Jedburgh	59	...	...	...	...	2	1	...	...	2	1	...	...	
		Hawick	60	...	...	...	...	...	...	...	...	...	...	...	...	
		Kelso	61	...	...	...	...	...	...	...	...	...	...	...	...	
29	Selkirk	Selkirk	62	...	...	1	...	...	...	...	...	1	...	...	...	
30	Stirling	Stirling	63	...	...	...	...	2	...	...	...	2	...	...	...	
		Falkirk	64	...	...	...	...	...	...	...	...	...	...	...	...	
31	Sutherland	Dornoch	65	...	...	...	...	...	...	...	...	...	...	...	...	
32	Wigtown	Wigtown	66	...	...	...	...	1	...	...	...	1	...	...	...	
		Stranraer	67	...	...	...	...	...	...	...	...	...	...	...	...	
33	Zetland	Fort-Charlotte	68	...	...	...	...	...	...	...	...	...	...	...	...	
25	Perth	General Prison	69	1	...	...	...	...	...	22	12	23	12	...	...	
				1	...	8	1	22	9	23	12	54	22	2	...	6
				1		9		31		35		76		2		

for the Year ended on the **30th day of June 1864**—*continued.* (No. IV. *Continued.*)

eneral Conduct in Prison of Criminal Prisoners in **Confinement** during the Period.							24. Punishments for Misconduct in Prison of Criminal Prisoners in **Confinement** during the Period.														No. of Prison.
							(1.) Ages of Prisoners who have incurred Punishment.										(2.) Description of Punishments.				
	Tolerable.		Bad.		Total.		Under 16.		16 Years and under 18.		18 Years and under 21.		21 Years and under 50.		50 Years and above.		Total.		Number by temporary deprivation of Work.		Number by changes in Food.		
F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
459	7	...	1	1	548	460	...	...	...	...	2	1	4	2	1	...	7	3	...	...	6	2	1
22	2	...	...	...	77	22	2	...	...	...	...	...	...	...	...	...	2	...	...	...	4	...	2
4	...	...	...	...	10	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
2	...	...	...	...	18	2	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
25	1	...	...	...	73	25	...	...	...	...	...	...	4	...	...	...	4	...	...	...	4	...	5
25	7	4	1	...	97	29	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
2	...	...	1	...	23	2	...	...	...	...	...	...	1	...	...	...	1	...	...	...	1	...	7
1	...	...	...	...	14	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8
252	...	3	...	...	274	255	1	...	...	...	1	4	...	17	...	...	2	21	...	3	...	7	9
79	4	3	1	...	186	82	...	...	...	...	3	1	2	...	...	...	5	1	...	...	3	...	10
22	...	...	...	...	78	22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11
3	1	...	2	...	7	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13
11	6	...	2	...	68	11	...	...	1	...	...	...	3	...	...	...	4	...	...	...	9	...	14
11	...	...	...	...	61	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15
30	3	4	...	3	116	37	...	2	...	...	...	...	...	...	...	...	...	2	...	...	...	2	16
16	4	2	4	1	77	19	...	...	...	...	...	...	3	2	...	...	3	2	...	...	3	3	17
32	8	9	2	...	79	41	...	...	...	...	...	...	1	1	...	...	1	1	...	...	...	...	18
74	2	...	...	...	283	74	...	...	...	...	1	1	1	...	...	...	2	1	...	...	2	...	19
11	...	...	...	...	25	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	20
14	...	...	...	...	57	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21
181	3	5	4	3	415	189	1	...	...	...	1	...	2	4	...	...	4	4	...	...	2	1	22
3262	183	30	36	24	2769	3316	26	...	13	3	44	18	83	21	10	2	176	44	...	...	220	48	23
30	...	...	...	...	28	30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24
41	...	...	1	...	127	41	...	...	...	...	1	...	...	...	...	...	1	...	...	...	1	...	25
2	...	...	...	...	23	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	26
85	5	1	...	...	246	86	1	...	...	...	1	...	1	...	...	...	3	...	...	...	2	...	27
50	4	...	5	...	109	50	...	...	1	...	1	...	1	...	...	...	3	...	...	...	3	...	28
598	5	3	3	...	776	601	6	2	6	3	12	2	4	17	1	...	29	24	...	...	33	26	29
44	7	1	7	1	149	46	1	...	...	...	2	...	4	1	...	...	7	1	...	...	7	1	30
53	17	8	6	...	175	61	3	...	...	...	3	...	1	1	...	...	7	1	...	...	2	...	31
24	...	3	2	1	56	28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	32
39	16	1	4	...	117	40	9	...	1	...	4	...	4	...	1	...	19	...	...	...	13	...	33
7	1	...	...	...	10	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	34
3	...	...	...	...	5	3	...	...	...	...	1	...	...	...	...	...	1	...	...	...	1	...	35
8	...	1	...	...	37	9	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	36
23	1	1	...	...	56	24	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	37
3	4	...	...	...	35	3	1	...	...	...	...	...	3	...	...	...	4	...	...	...	4	...	38
31	...	...	1	...	116	31	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	39
10	...	...	...	1	22	11	...	...	...	...	...	..	...	1	...	...	...	1	...	...	...	1	40
3162	36	10	18	12	3785	3184	23	2	45	6	61	6	44	8	2	...	175	22	...	...	229	4	41
27	4	2	...	1	161	30	...	...	...	...	...	...	6	...	...	...	6	...	...	...	5	...	42
104	11	5	6	3	442	112	1	...	...	...	3	...	13	6	3	...	20	6	4	2	19	5	43
260	14	11	2	2	787	273	1	...	3	1	4	2	6	4	1	...	15	7	...	...	15	8	44
52	1	4	1	1	120	57	...	...	...	...	...	1	...	1	...	...	...	2	...	...	...	2	45
5	...	...	...	...	36	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	46
8	...	...	1	...	10	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	47
2	...	1	...	...	70	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	48
181	45	44	8	2	445	227	...	...	1	...	2	...	5	6	...	2	8	8	...	...	6	6	49
42	...	...	1	...	44	42	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	50
7	3	1	1	1	53	9	1	...	...	...	...	...	2	...	...	...	3	...	...	...	1	...	51
446	4	...	4	1	897	447	1	...	4	...	10	1	20	1	...	...	35	2	1	...	31	1	52
377	3	...	...	...	554	377	1	...	1	...	4	...	6	2	...	...	12	2	...	...	16	2	53
28	...	...	...	...	105	28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	54
15	3	4	1	1	51	20	1	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	55
17	...	...	...	...	52	17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	56
...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	57
6	8	...	8	...	71	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	58
27	5	2	2	...	170	29	2	...	1	...	2	...	3	...	...	...	8	...	6	...	6	...	59
18	1	2	...	1	67	21	...	...	...	...	...	...	...	1	..	...	...	1	...	...	...	1	60
14	...	...	1	...	18	14	...	...	...	...	...	...	...	...	1	...	1	...	...	...	1	...	61
16	...	1	2	...	74	17	1	...	...	...	...	...	1	...	...	...	2	...	...	...	7	...	62
155	10	2	3	3	451	160	5	...	3	...	3	1	12	2	...	...	23	3	...	...	24	1	63
12	10	6	...	...	68	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	64
1	1	...	...	...	17	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	65
25	5	2	2	...	57	27	1	...	1	...	...	...	6	...	...	...	8	...	...	...	8	...	66
19	...	...	...	...	45	19	1	...	1	...	...	...	2	...	...	...	4	...	...	...	4	..	67
6	...	...	1	...	33	6	...	...	...	...	1	...	...	...	...	...	1	...	...	...	1	...	68
480	59	42	88	15	690	537	6	...	20	5	60	21	97	65	1	5	184	96	9	...	308	51	69
11,101	514	218	233	78	16,819	11,397	96	6	102	18	227	59	345	165	21	9	791	257	20	5	1002	172	
173	732		311		28,216		102		120		286		510		30		1048		25		1174		

(No. IV. *Continued.*) DIGEST of RETURNS relative to PRISONS and PRISONERS in SCOTLAND

	COUNTIES.	PRISONS.	No. of Prison.	24.—*continued.* Punishments for Misconduct in Prison of Criminal Prisoners, &c.—*continued.* (2.) Description of Punishments—*continued.* Number confined in Cells for the Refractory. Light Cells. M.	Light Cells. F.	Dark Cells. M.	Dark Cells. F.	Number by putting in Irons. M.	Number by putting in Irons. F.	Number of other Punishments. M.	Number of other Punishments. F.	(3.) Number of cases of Punishment by one or more of the modes in No. 2. M.	(3.) Number of cases of Punishment by one or more of the modes in No. 2. F.	25. State as to Instr (1.) On A Could not Read. M.	Could not Read. F.	R di M
1	Aberdeen	Aberdeen	1	...	...	1	1	...	...	...	...	7	3	81	51	23
		Peterhead	2	...	...	...	...	...	...	...	...	4	...	11	3	3
		Huntly	3	...	...	...	...	...	...	...	...	...	...	2	1	
		Fraserburgh	4	...	...	...	...	...	...	...	...	...	...	4	...	1
2	Argyle	Inveraray	5	...	...	...	...	...	...	...	...	4	...	9	7	18
		Campbeltown	6	...	...	...	...	...	...	...	...	...	...	4	6	7
		Tobermory	7	...	...	...	...	...	...	...	...	1	...	4	1	12
		Lochgilphead	8	...	...	...	...	...	...	...	...	...	...	4	1	
3	Ayr	Ayr	9	1	...	1	12	...	8	...	...	2	30	43	26	74
		Kilmarnock	10	...	...	...	...	2	1	...	...	5	1	36	17	73
4	Banff	Banff	11	...	...	...	...	...	...	...	...	...	...	7	6	55
		Keith	12	...	...	...	...	...	...	...	...	...	...	...	2	3
		Cullen	13	...	...	...	...	...	...	...	...	...	...	...	...	...
5	Berwick	Greenlaw	14	...	...	1	...	1	...	...	...	11	...	19	1	17
		Dunse	15	...	...	...	...	...	...	...	...	...	...	10	3	21
6	Bute	Rothesay	16	...	...	...	...	...	...	...	...	...	2	8	4	95
7	Caithness	Wick	17	...	...	...	...	...	...	...	...	3	3	11	1	50
8	Clackmannan	Alloa	18	...	...	...	1	...	...	1	...	1	1	6	6	64
9	Dumbarton	Dumbarton	19	...	...	1	1	...	...	...	...	3	1	69	22	195
		Kirkintilloch	20	...	...	...	...	...	...	...	...	...	...	10	8	8
		Helensburgh	21	...	...	...	...	...	...	...	...	...	...	8	5	23
10	Dumfries	Dumfries	22	...	...	2	3	...	...	...	...	4	4	56	38	57
11	Edinburgh	Edinburgh, including Court Buildings	23	...	...	32	23	16	13	4	...	224	52	347	438	2,015
		Musselburgh	24	...	...	...	...	...	...	...	...	...	...	3	7	20
12	Elgin	Elgin	25	...	...	...	...	...	...	...	...	1	...	22	10	60
		Forres	26	...	...	...	...	...	...	...	...	...	...	4	...	7
13	Fife	Cupar	27	...	...	...	...	...	...	1	...	3	...	46	14	84
		Dunfermline	28	...	...	...	...	1	...	...	...	6	...	24	16	31
14	Forfar	Dundee	29	...	...	5	...	2	...	1	...	41	26	171	126	493
		Forfar	30	...	...	...	...	...	...	...	...	7	1	12	2	74
15	Haddington	Haddington	31	7	1	1	...	...	...	...	...	10	1	54	15	106
		Dunbar	32	...	...	...	...	...	...	...	...	...	...	16	8	27
16	Inverness	Inverness	33	...	...	5	...	1	...	...	...	19	...	19	14	67
		Portree	34	...	...	...	...	...	...	...	...	...	...	2	3	6
		Lochmaddy	35	...	...	...	...	...	...	...	...	1	...	3	2	2
		Fort-William	36	...	...	...	...	...	1	...	...	...	1	6	3	25
17	Kincardine	Stonehaven	37	...	...	...	1	...	...	...	...	...	1	3	2	34
18	Kinross	Kinross	38	...	...	...	...	...	...	1	...	5	...	2	...	13
19	Kirkcudbright	Kirkcudbright	39	...	...	...	...	...	...	...	...	...	...	21	10	49
		Maxwelltown	40	...	...	...	...	...	...	...	...	...	1	3	2	19
20	Lanark	Glasgow	41	...	...	12	9	11	14	...	...	252	27	669	791	692
		Lanark	42	...	...	...	...	...	...	1	...	6	...	22	5	75
		Hamilton	43	1	...	...	1	1	...	1	...	26	8	88	21	127
		Airdrie	44	...	...	...	...	2	1	...	...	17	9	343	142	311
21	Linlithgow	Linlithgow	45	...	...	...	...	...	...	...	...	...	2	26	18	61
22	Nairn	Nairn	46	...	...	...	...	...	...	...	...	...	...	6	2	19
23	Orkney	Kirkwall	47	...	...	...	...	...	...	...	...	...	...	2	4	8
24	Peebles	Peebles	48	...	...	...	...	...	...	...	...	...	...	9	...	18
25	Perth	Perth	49	...	...	7	2	1	...	...	...	11	8	54	22	338
		Perth Police Cells	50	...	...	...	...	...	...	...	...	...	...	11	17	4
		Dunblane	51	2	...	1	...	2	...	...	...	3	...	5	2	40
26	Renfrew	Paisley	52	1	...	1	1	2	...	7	...	43	2	171	117	402
		Greenock	53	...	...	...	...	...	...	...	...	16	2	86	111	135
		Pollockshaws	54	...	...	...	...	...	...	...	...	...	...	28	11	33
27	Ross and Cromarty	Dingwall	55	...	...	...	...	...	...	...	...	1	...	13	3	1
		Tain	56	...	...	...	...	...	...	...	...	...	...	5	3	21
		Cromarty	57	...	...	...	...	...	...	...	...	...	...	2	...	2
		Stornoway	58	...	...	...	...	...	...	...	...	...	...	19	...	45
28	Roxburgh	Jedburgh	59	...	...	2	...	1	...	2	...	8	...	22	13	134
		Hawick	60	...	...	...	...	...	1	...	...	...	1	11	3	18
		Kelso	61	...	...	...	...	...	...	...	...	1	...	5	...	2
29	Selkirk	Selkirk	62	...	...	...	...	3	...	...	...	7	...	10	5	12
30	Stirling	Stirling	63	1	...	...	...	5	3	...	...	30	4	94	34	100
		Falkirk	64	...	...	...	...	...	...	...	...	...	...	5	1	12
31	Sutherland	Dornoch	65	...	...	...	...	...	...	...	...	...	...	3	...	6
32	Wigtown	Wigtown	66	...	...	...	...	...	...	...	...	8	...	5	11	24
		Stranraer	67	...	...	...	...	...	...	...	...	4	...	5	3	31
33	Zetland	Fort-Charlotte	68	...	...	...	...	...	...	...	...	1	...	1	...	24
25	Perth	General Prison	69	...	...	113	21	57	15	247	117	427	136	37	29	107
				13	1	185	76	108	57	266	117	1223	327	2917	2249	7159
				14		261		165		383		1550		5166		12,9

for the Year ended on the **30th day of June 1864**—*continued.* (No. IV. *Continued.*)

al Prisoners **received** during the Period.

the said Period.

ell.	Total.		Writing.										(2.) Had learned more than mere Reading and Writing.		(3.) Improvement during the Period.						No. of Prison.
			Could not Write.		Could sign Name merely.		Write with difficulty.		Write well.		Total.				Have improved in Reading or Writing, or both.		Have improved in Arithmetic or other branches of Instruction.		Have learned a Trade in Prison.		
F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
10	512	441	132	217	...	...	305	221	75	3	512	441	13	...	120	187	35	...	24	58	1
3	71	19	30	14	...	...	24	3	17	2	71	19	...	...	...	...	...	...	...	...	2
...	7	3	2	3	...	...	5	...	...	...	7	3	...	...	...	...	...	...	...	...	3
...	17	2	5	2	10	...	...	...	2	...	17	2	...	...	...	...	...	...	...	...	4
8	61	20	22	12	...	...	29	2	10	6	61	20	...	...	...	...	...	...	...	...	5
1	91	25	20	17	...	...	63	8	8	...	91	25	1	...	6	1	...	...	...	...	6
...	16	1	4	1	12	...	...	...	...	...	16	1	...	...	...	...	...	...	...	...	7
...	13	1	6	1	...	...	6	...	1	...	13	1	...	...	...	...	...	...	...	...	8
100	234	183	116	98	...	...	104	74	14	11	234	183	...	...	17	54	8	26	6	33	9
11	159	67	68	55	39	7	47	5	5	...	159	67	...	...	...	...	...	...	...	...	10
...	64	15	21	13	...	...	41	2	2	...	64	15	...	...	13	1	9	...	...	...	11
...	3	2	...	2	...	...	3	2	...	...	3	2	...	...	...	...	...	...	...	...	12
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13
5	59	10	22	8	...	...	20	2	17	...	59	10	11	...	35	...	11	...	...	...	14
1	34	8	13	3	...	...	18	4	3	1	34	8	...	...	...	...	...	...	...	...	15
...	111	36	19	20	...	...	85	16	7	...	111	36	44	1	6	1	3	...	...	...	16
2	68	16	20	10	...	...	43	4	5	2	68	16	...	...	...	...	...	...	...	...	17
...	71	40	12	24	1	3	57	13	1	...	71	40	2	...	9	2	7	...	5	...	18
1	275	67	114	48	6	...	148	19	7	...	275	67	33	1	6	3	2	...	...	...	19
...	24	11	10	8	...	...	8	3	6	...	24	11	...	...	...	...	...	...	...	...	20
2	54	11	16	7	17	2	11	2	10	...	54	11	...	...	...	...	...	...	...	...	21
16	384	184	132	98	...	...	24	27	228	59	384	184	6	...	77	...	6	...	...	...	22
23	2,497	3,110	619	1,140	...	...	1,793	1,954	85	16	2,497	3,110	...	...	309	325	80	145	...	...	23
3	26	29	6	12	...	...	18	14	2	3	26	29	...	...	...	...	...	...	...	...	24
3	110	33	40	19	...	...	64	13	6	1	110	33	6	1	10	5	3	1	3	...	25
...	14	1	8	1	...	...	4	...	2	...	14	1	2	...	...	...	...	...	...	...	26
30	227	83	83	47	...	...	134	36	10	...	227	83	...	...	66	26	39	...	...	...	27
15	106	46	41	37	...	...	59	8	6	1	106	46	...	...	29	5	11	...	...	...	28
19	720	557	316	357	...	...	364	195	40	5	720	557	37	...	95	50	54	...	...	...	29
3	131	44	28	27	...	...	95	17	8	...	131	44	...	...	3	...	...	...	...	...	30
...	164	59	80	35	...	...	80	24	4	...	164	59	3	...	6	1	...	...	...	...	31
2	52	28	23	15	...	...	22	12	7	1	52	28	...	...	...	...	...	...	...	...	32
2	100	35	36	24	3	2	55	8	6	1	100	35	3	1	22	9	7	...	8	8	33
...	10	6	6	6	...	...	3	...	1	...	10	6	...	...	4	2	...	...	...	...	34
...	5	3	4	3	...	...	1	...	...	...	5	3	...	...	...	...	...	...	...	...	35
1	36	9	9	3	...	...	22	6	5	...	36	9	5	...	2	1	...	...	...	...	36
9	53	24	12	16	...	...	39	7	2	1	53	24	1	...	1	...	...	...	2	...	37
1	34	3	7	2	...	...	8	1	19	...	34	3	...	...	11	1	2	...	3	...	38
4	102	31	50	26	...	...	43	5	9	...	102	31	1	...	...	...	...	...	...	...	39
3	22	10	14	6	1	1	7	3	...	...	22	10	...	...	...	...	...	...	...	...	40
253	3,421	2,921	1,557	2,139	...	...	745	463	1,119	319	3,421	2,921	34	2	371	328	181	44	...	...	41
7	157	29	54	23	...	...	97	6	6	...	157	29	2	...	4	3	1	...	...	...	42
43	410	99	185	70	...	...	146	21	79	8	410	99	3	1	11	3	4	...	2	...	43
21	756	256	407	212	216	23	98	17	35	4	756	256	25	2	27	5	2	...	...	...	44
1	111	49	47	88	...	...	51	11	13	...	111	49	1	...	2	4	2	1	...	...	45
1	33	5	7	5	...	...	20	...	6	...	33	5	...	...	...	...	...	...	...	...	46
...	10	6	3	5	...	...	7	1	...	...	10	6	...	...	...	...	...	...	...	...	47
2	63	3	13	1	...	...	22	2	28	...	63	3	9	...	5	...	5	...	...	...	48
...	411	206	125	109	...	...	273	97	13	...	411	206	3	...	6	2	...	...	...	...	49
16	43	41	15	29	2	2	4	3	22	7	43	41	...	...	...	...	...	...	...	...	50
...	46	8	17	4	...	...	28	4	1	...	46	8	...	...	7	2	...	...	...	...	51
43	814	392	345	301	...	...	395	86	74	5	814	392	1	...	90	60	50	10	...	...	52
75	374	255	169	204	...	...	139	45	66	6	374	255	41	1	...	...	...	...	...	...	53
2	76	17	33	12	...	...	27	3	16	2	76	17	...	...	...	...	...	...	...	...	54
5	48	18	20	11	...	1	26	5	2	1	48	18	...	...	4	3	3	2	...	...	55
3	49	12	13	5	...	...	13	4	23	3	49	12	...	...	...	...	...	...	...	...	56
...	4	...	2	...	2	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	57
...	71	6	41	6	...	...	26	...	4	...	71	6	...	...	...	...	...	...	...	...	58
...	156	27	57	16	...	...	99	11	...	...	156	27	2	1	24	2	2	2	...	...	59
10	51	17	26	6	...	...	12	9	13	2	51	17	...	...	...	...	...	...	...	...	60
...	9	11	5	5	...	...	2	6	2	...	9	11	...	...	...	...	...	...	...	...	61
9	72	16	21	8	...	...	30	6	21	2	72	16	1	...	3	...	...	...	...	...	62
43	408	140	167	95	...	...	198	41	43	4	408	140	1	...	69	28	8	...	9	9	63
2	20	5	6	2	5	1	6	1	3	1	20	5	...	...	...	...	...	...	...	...	64
...	14	1	5	1	6	...	...	...	3	...	14	1	...	...	1	...	...	...	2	...	65
4	54	21	16	17	1	...	33	4	4	...	54	21	...	...	...	...	...	...	...	...	66
...	44	18	19	12	...	...	22	6	3	...	44	18	...	...	...	...	...	...	...	...	67
...	31	5	7	3	...	...	18	2	6	...	31	5	6	...	2	1	...	...	...	...	68
56	329	149	60	68	17	10	166	63	86	8	329	149	118	10	312	131	173	29	162	57	69
774	14,822	10,006	5608	5842	338	52	6555	3627	2321	485	14,822	10,006	415	21	1785	1246	708	260	226	165	
	24,828		11,450		390		10,182		2806		24,828		436		3031		968		391		

(No. IV. *Continued.*) DIGEST of RETURNS relative to PRISONS and PRISONERS in SCOTLAN

	COUNTIES.	PRISONS.	No. of Prison.	26. Sickness and Deaths of Criminal I										
				(1.) Age of Prisoners who have experienced Sickness.										
				Under 16 Years.		16 Years and under 18.		18 Years and under 21.		21 Years and under 50.		50 Years and above.		
				M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M
1	Aberdeen	Aberdeen	1	1	...	2	...	1	4	37	20	1	3	4
		Peterhead	2	...	...	...	...	...	...	...	...	...	...	
		Huntly	3	...	...	...	...	...	...	...	...	...	...	
		Fraserburgh	4	...	...	...	...	...	...	3	...	...	...	
2	Argyle	Inveraray	5	...	...	...	...	...	...	...	...	...	...	
		Campbeltown	6	...	...	...	...	...	...	...	...	...	...	
		Tobermory	7	...	...	...	...	...	...	...	...	...	...	
		Lochgilphead	8	...	...	...	...	...	...	...	...	...	...	
3	Ayr	Ayr	9	...	...	...	...	...	1	...	6	...	1	
		Kilmarnock	10	1	...	...	...	1	1	4	1	1	...	
4	Banff	Banff	11	...	...	...	...	...	...	...	...	...	...	
		Keith	12	...	...	...	...	...	...	...	...	...	...	
		Cullen	13	...	...	...	...	...	...	...	...	...	...	
5	Berwick	Greenlaw	14	...	...	...	...	...	...	...	...	1	...	
		Dunse	15	...	...	...	...	...	...	...	...	...	...	
6	Bute	Rothesay	16	...	...	...	...	...	...	3	1	...	...	
7	Caithness	Wick	17	...	...	...	...	...	...	...	...	...	...	
8	Clackmannan	Alloa	18	...	...	...	...	...	...	1	...	...	...	
9	Dumbarton	Dumbarton	19	...	...	...	...	1	...	2	7	2	1	
		Kirkintilloch	20	...	...	...	...	...	...	...	...	...	...	
		Helensburgh	21	...	...	...	...	...	...	...	...	...	...	
10	Dumfries	Dumfries	22	1	...	...	...	...	1	6	1	...	...	
11	Edinburgh	Edinburgh, including Court Buildings	23	5	...	...	2	7	7	51	78	9	15	7
		Musselburgh	24	...	...	...	...	...	...	...	...	...	...	
12	Elgin	Elgin	25	...	...	1	...	1	2	5	...	...	...	
		Forres	26	...	...	...	...	...	...	...	...	...	...	
13	Fife	Cupar	27	...	...	...	...	...	...	3	1	...	...	
		Dunfermline	28	...	...	...	...	...	...	3	1	...	...	
14	Forfar	Dundee	29	...	...	4	...	8	1	58	34	8	3	7
		Forfar	30	...	...	...	...	...	...	12	9	1	...	1
15	Haddington	Haddington	31	...	...	...	...	...	...	...	...	...	...	
		Dunbar	32	...	...	...	...	...	...	...	...	...	...	
16	Inverness	Inverness	33	...	...	...	...	...	...	1	2	...	...	
		Portree	34	...	...	...	...	...	...	...	...	...	...	
		Lochmaddy	35	...	...	...	...	1	...	1	...	...	...	
		Fort-William	36	...	...	...	...	...	...	...	...	...	...	
17	Kincardine	Stonehaven	37	...	...	...	...	...	...	...	...	...	...	
18	Kinross	Kinross	38	...	...	...	...	...	...	2	1	...	...	
19	Kirkcudbright	Kirkcudbright	39	...	...	...	...	1	...	18	6	3	2	2
		Maxwelltown	40	...	...	...	...	...	...	1	...	...	...	
20	Lanark	Glasgow	41	5	...	4	2	24	14	62	31	8	8	10
		Lanark	42	...	...	...	...	...	...	...	...	...	...	
		Hamilton	43	...	...	...	...	...	1	7	2	3	...	1
		Airdrie	44	...	...	...	...	1	...	2	1	...	...	
21	Linlithgow	Linlithgow	45	...	...	...	...	...	...	...	1	...	...	
22	Nairn	Nairn	46	...	...	...	...	...	...	...	...	...	...	
23	Orkney	Kirkwall	47	...	...	...	...	...	...	...	...	...	...	
24	Peebles	Peebles	48	...	...	1	...	...	...	2	...	...	...	
25	Perth	Perth	49	1	...	2	1	6	2	65	37	7	1	8
		Perth Police Cells	50	...	...	...	...	...	...	...	...	...	...	
		Dunblane	51	...	...	...	...	1	...	1	1	...	1	
26	Renfrew	Paisley	52	2	...	8	1	8	11	94	64	7	4	11
		Greenock	53	...	...	...	...	...	3	7	9	...	...	
		Pollockshaws	54	...	...	...	...	...	...	...	...	...	...	
27	Ross and Cromarty	Dingwall	55	...	...	...	...	...	...	...	...	...	...	
		Tain	56	...	...	...	...	...	...	...	...	...	...	
		Cromarty	57	...	...	...	...	...	...	...	...	...	...	
		Stornoway	58	...	...	...	...	...	...	1	...	...	...	
28	Roxburgh	Jedburgh	59	...	...	...	...	...	...	...	...	...	...	
		Hawick	60	...	...	...	...	...	...	1	...	...	1	
		Kelso	61	...	...	...	...	...	...	...	1	...	...	
29	Selkirk	Selkirk	62	...	...	...	...	...	...	...	...	...	...	
30	Stirling	Stirling	63	2	1	2	...	2	1	20	7	...	1	2
		Falkirk	64	...	...	...	...	...	1	...	...	...	...	
31	Sutherland	Dornoch	65	...	...	...	...	...	...	...	...	...	...	
32	Wigtown	Wigtown	66	...	...	...	...	...	1	1	1	...	1	
		Stranraer	67	...	...	...	1	...	1	1	2	...	...	
33	Zetland	Fort-Charlotte	68	...	...	...	...	1	...	...	...	...	...	
25	Perth	General Prison	69	1	...	1	1	4	4	29	32	1	2	3
				19	1	25	8	68	56	504	357	52	44	66
				20		33		124		861		96		

for the Year ended on the **30th day of June 1864**—*continued.*

(No. IV. *Continued.*)

nfinement during the Period, as appearing from the Register of Sickness.

(2.) Character of Disease, and Time of Appearance.										(3.) Number of Prisoners who have been off Work.																No. of Prison.
Cases of Slight Disorders.		Total.		Appeared before Imprison-ment.		Appeared after Imprison-ment.		Total.		1 Day.		2 Days.		3 Days.		4 Days.		5 Days and under 10 Days.		10 Days and under 20 Days.		Above 20 Days.		Total.		
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
42	27	42	27	33	20	9	7	42	27	...	2	1	6	2	1	5	...	...	4	...	...	...	...	8	13	1
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
3	...	3	...	3	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8
...	4	...	8	...	7	...	1	...	8	...	...	...	...	...	...	...	...	...	1	...	7	...	8	...	8	9
5	1	7	2	6	1	1	1	7	2	...	...	...	...	...	...	...	...	1	...	2	...	...	...	3	...	10
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13
...	...	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	14
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15
3	...	3	1	2	1	1	...	3	1	...	...	...	...	...	...	...	...	3	...	...	...	...	1	3	1	16
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17
1	...	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	18
5	7	5	8	5	6	...	2	5	8	1	...	...	...	1	...	1	1	1	3	...	2	...	1	4	7	19
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	20
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21
7	2	7	2	6	2	1	...	7	2	...	...	1	...	1	...	3	1	2	1	...	...	...	...	7	2	22
62	89	72	102	55	84	17	18	72	102	...	...	5	24	23	27	14	19	18	25	5	4	7	3	72	102	23
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24
2	1	7	2	3	...	4	2	7	2	...	...	...	...	...	...	...	...	1	1	3	1	3	...	7	2	25
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	26
3	1	3	1	3	1	...	...	3	1	...	...	1	...	1	...	1	...	...	1	...	...	...	...	3	1	27
3	1	3	1	3	1	...	...	3	1	...	...	...	...	1	...	1	...	1	1	...	...	...	...	3	1	28
65	28	78	38	56	22	22	16	78	38	1	...	3	...	13	6	16	6	25	13	5	2	2	2	65	29	29
13	9	13	9	7	6	6	3	13	9	...	...	...	...	...	...	...	1	1	1	5	...	1	...	7	2	30
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	31
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	32
...	1	1	2	1	1	...	1	1	2	...	...	...	...	...	...	...	...	...	...	1	1	...	1	1	2	33
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	34
2	...	2	...	2	...	...	...	2	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	2	...	35
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	36
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	37
2	1	2	1	1	1	1	...	2	1	1	...	1	...	...	1	...	...	...	...	...	...	...	...	2	1	38
22	7	22	8	16	5	6	3	22	8	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	39
1	...	1	...	1	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	40
69	43	103	55	61	48	42	7	103	55	1	4	3	3	4	3	6	5	31	12	31	11	20	12	96	50	41
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	42
8	2	10	3	6	1	4	2	10	3	...	...	...	...	2	...	...	...	1	...	5	3	2	...	10	3	43
3	1	3	1	2	1	1	...	3	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	44
...	1	...	1	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	45
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	46
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	47
3	...	3	...	...	...	3	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	48
77	40	81	41	63	34	18	7	81	41	...	...	...	...	...	1	...	1	...	...	...	2	1	...	1	4	49
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	50
2	2	2	2	1	1	1	1	2	2	...	...	...	1	...	...	...	...	1	...	1	...	1	1	2	2	51
82	44	119	80	109	75	10	5	119	80	...	...	1	1	...	...	10	11	11	11	9	9	1	4	32	36	52
6	12	7	12	5	12	2	...	7	12	...	...	1	2	3	1	...	1	2	5	...	1	1	1	7	11	53
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	54
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	55
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	56
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	57
1	...	1	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	58
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	59
1	1	1	1	1	1	...	...	1	1	...	...	...	...	...	...	...	...	...	...	1	1	...	...	1	1	60
...	1	...	1	...	1	..	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	61
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	62
26	9	26	10	12	5	14	5	26	10	...	...	...	...	...	3	2	1	4	5	2	1	2	...	10	10	63
...	1	...	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	64
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	65
1	3	1	3	...	...	1	3	1	3	...	...	...	...	...	...	..	1	1	2	...	...	...	...	1	3	66
1	3	1	4	...	3	1	1	1	4	...	..	...	...	...	...	...	...	1	1	...	3	...	...	1	4	67
1	...	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	68
16	22	36	39	16	19	20	20	36	39	...	...	2	...	4	3	1	3	6	6	9	10	6	12	28	34	69
538	364	668	466	482	360	186	106	668	466	5	6	19	37	55	47	61	51	112	92	81	53	47	46	380	332	
902		1134		842		292		1134		11		56		102		112		204		134		93		712		

(No. IV. *Continued.*) DIGEST of RETURNS relative to PRISONS and PRISONERS in SCOTLAND.

	COUNTIES.	PRISONS.	No. of Prison.	26.—*continued.*—Sickness and Deaths of Criminal Prisoners, &c.—con. (4.) Time which Prisoners have been off Work from Illness, including Time which Prisoners not required to Work would have been withdrawn had they been at Work.				Number of Prisoners Removed on Account of Sickness.		Number Liberated on Account of Sickness.		
				Total Number of Days.		Average Number of Days per Prisoner, calculated on the Average Number of Prisoners.						
				M.	F.	M.	F.	M.	F.	M.	F.	M
1	Aberdeen	Aberdeen	1	28	45	1	2	...	...	...	...	...
		Peterhead	2	...	...	...	...	...	...	...	...	...
		Huntly	3	...	...	...	...	...	...	...	...	...
		Fraserburgh	4	...	...	...	...	...	...	...	...	...
2	Argyle	Inveraray	5	...	...	...	...	...	...	...	...	...
		Campbeltown	6	...	...	...	...	...	...	...	...	...
		Tobermory	7	...	...	...	...	...	...	...	...	...
		Lochgilphead	8	...	...	...	...	...	...	...	...	...
3	Ayr	Ayr	9	...	805	...	11	...	...	...	...	...
		Kilmarnock	10	37	...	3	...	...	...	1	...	...
4	Banff	Banff	11	...	...	...	...	...	...	...	...	...
		Keith	12	...	...	...	...	...	...	...	...	...
		Cullen	13	...	...	...	...	...	...	...	...	...
5	Berwick	Greenlaw	14	197	...	28	...	...	...	...	...	...
		Dunse	15	...	...	...	...	...	...	...	...	...
6	Bute	Rothesay	16	16	94	3	31	...	...	...	1	...
7	Caithness	Wick	17	...	...	...	...	...	...	...	...	...
8	Clackmannan	Alloa	18	10	...	2	...	...	...	...	...	...
9	Dumbarton	Dumbarton	19	17	86	2	21	...	...	...	...	...
		Kirkintilloch	20	...	...	...	...	...	...	...	...	...
		Helensburgh	21	...	...	...	...	...	...	...	...	...
10	Dumfries	Dumfries	22	33	12	2	2	...	...	...	...	...
11	Edinburgh	Edinburgh, including Court Buildings	23	496	445	3	2	2	...	...	...	1
		Musselburgh	24	...	...	...	...	...	...	...	...	...
12	Elgin	Elgin	25	140	24	14	6	2	1	2	...	1
		Forres,	26	...	...	...	...	...	...	...	...	...
13	Fife	Cupar	27	9	6	...	1	...	...	...	...	...
		Dunfermline	28	15	6	2	3	...	...	...	...	...
14	Forfar	Dundee	29	359	178	7	5	...	...	...	...	...
		Forfar	30	99	12	8	3	1	...	...	...	...
15	Haddington	Haddington	31	...	...	...	...	...	...	...	...	...
		Dunbar	32	...	...	...	...	...	...	...	...	...
16	Inverness	Inverness	33	17	149	1	21	...	...	...	...	...
		Portree	34	...	...	...	...	...	...	...	...	...
		Lochmaddy	35	10	...	10	...	...	...	...	...	...
		Fort-William	36	...	...	...	...	...	...	...	...	...
17	Kincardine	Stonehaven	37	...	...	...	...	...	...	...	...	...
18	Kinross	Kinross	38	3	3	1	3	...	...	...	...	...
19	Kirkcudbright	Kirkcudbright	39	...	129	...	64	1	...	...	...	...
		Maxwelltown	40	1	...	1	...	...	...	...	...	...
20	Lanark	Glasgow	41	1,054	1,007	3	4	4	...	2	2	2
		Lanark	42	...	...	...	...	...	...	...	...	...
		Hamilton	43	587	235	27	33	...	...	...	...	...
		Airdrie	44	16	...	...	...	...	...	...	...	...
21	Linlithgow	Linlithgow	45	...	35	...	9	...	...	...	...	...
22	Nairn	Nairn	46	...	...	...	...	...	...	...	...	...
23	Orkney	Kirkwall	47	...	...	...	...	...	...	...	...	...
24	Peebles	Peebles	48	...	...	...	...	...	...	...	...	...
25	Perth	Perth	49	156	31	5	2	1	...	...	...	1
		Perth Police Cells	50	...	...	...	...	...	...	...	...	...
		Dunblane	51	20	33	10	33	...	...	...	...	...
26	Renfrew	Paisley	52	248	374	4	10	...	...	...	...	1
		Greenock	53	61	76	4	7	...	...	...	...	...
		Pollockshaws	54	...	...	...	...	...	...	...	...	...
27	Ross and Cromarty	Dingwall	55	...	...	...	...	...	...	...	...	...
		Tain	56	...	...	...	...	...	...	...	...	...
		Cromarty	57	...	...	...	...	...	...	...	...	...
		Stornoway	58	...	...	...	...	...	...	...	...	...
28	Roxburgh	Jedburgh	59	...	...	...	...	...	...	...	...	...
		Hawick	60	10	10	10	10	...	...	...	...	...
		Kelso	61	...	3	...	3	...	...	...	...	...
29	Selkirk	Selkirk	62	...	...	...	...	...	...	...	...	...
30	Stirling	Stirling	63	179	59	5	4	...	...	...	...	...
		Falkirk	64	...	...	...	...	...	...	...	...	...
31	Sutherland	Dornoch	65	...	...	...	...	...	...	...	...	...
32	Wigtown	Wigtown	66	8	20	1	5	...	...	...	...	...
		Stranraer	67	8	53	2	18	...	...	...	...	...
33	Zetland	Fort-Charlotte	68	...	...	...	...	...	...	1	...	...
25	Perth	General Prison	69	495	1403	1	4	...	...	...	...	8
				4,329	5,333	3	5	11	1	6	3	15
				9662		4		12		9		

for the Year ended on the **30th day of June 1864**—*continued.* (No. IV. (*Continued.*))

27. Civil Prisoners.																	No. of Prison.
(1.) Amount of Debts.									(2.) Other Causes, including *In meditatione fugæ*, and *Ad factum præstandum.*		Total.		(3.) Work.				
	Above £8. 5s. 9d. and under £20.		£20 and under £50.		£50 and under £100.		£100 and upwards.						Number who have consented to Work.		Number who have not consented to Work.		
F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
.	19	...	17	...	5	1	7	...	3	...	55	1	1	...	54	1	1
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
...	4	...	2	...	1	...	...	...	...	...	7	...	...	...	7	...	5
...	2	...	1	...	...	...	2	...	...	...	5	...	...	...	5	...	6
...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	7
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8
...	4	...	8	1	3	...	3	...	1	...	21	1	...	...	21	1	9
.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10
...	1	...	...	...	1	...	...	...	...	1	2	1	...	...	2	1	11
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13
...	1	...	2	...	...	...	...	...	...	...	3	...	...	...	3	...	14
...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	15
...	1	...	8	...	...	...	...	...	...	...	9	...	...	...	9	...	16
..	10	...	9	...	...	...	...	...	...	...	19	...	...	...	19	...	17
..	3	...	...	...	...	...	...	...	...	...	3	...	...	...	3	...	18
.	4	...	...	...	1	...	...	...	...	...	5	...	...	...	5	...	19
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	20
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21
.	12	...	8	...	1	...	1	...	...	...	24	...	...	...	24	...	22
.	94	3	31	...	8	1	2	...	5	1	87	5	...	...	87	5	23
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24
...	4	...	3	...	...	...	3	...	4	...	14	...	...	...	14	...	25
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	26
...	9	1	7	...	1	...	2	...	2	...	18	1	...	...	18	1	27
..	...	...	...	...	2	...	...	...	...	...	2	...	...	...	2	...	28
...	5	...	12	...	2	...	2	...	1	...	23	...	1	...	22	...	29
.	11	...	11	...	4	...	...	...	...	...	26	...	...	...	26	...	30
...	...	...	1	...	...	...	1	...	1	...	4	...	1	...	3	...	31
.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	32
.	5	...	4	...	1	...	1	...	...	...	11	...	2	...	9	...	33
.	1	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	34
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	35
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	36
..	9	...	...	...	...	...	...	...	..	...	9	...	...	...	9	...	37
.	2	...	1	...	1	...	...	...	...	...	4	...	...	...	4	...	38
...	2	...	2	...	...	...	...	...	...	...	4	...	...	...	4	...	39
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	40
...	79	8	41	3	19	...	9	...	17	4	165	15	...	...	165	15	41
...	6	2	...	...	...	...	...	...	...	...	9	...	1	...	8	...	42
..	6	1	6	1	1	...	4	...	2	...	27	2	3	1	24	1	43
..	2	...	4	...	1	...	...	...	...	...	8	...	...	...	8	...	44
.	4	1	2	...	1	...	...	...	2	...	11	1	...	...	11	1	45
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	46
..	...	...	2	...	...	...	...	...	...	...	2	...	...	...	2	...	47
..	1	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	48
..	4	...	6	...	...	...	2	...	8	...	20	...	1	...	19	...	49
..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	50
..	1	...	...	...	...	...	1	...	...	...	2	...	...	...	2	...	51
.	11	1	10	1	2	1	1	...	1	...	36	3	1	...	35	3	52
..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	53
..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	54
.	4	...	2	...	...	...	...	...	...	...	6	...	3	...	3	...	55
..	3	...	...	...	...	...	...	...	...	...	3	...	...	...	3	...	56
..	...	...	...	...	1	...	...	...	...	...	1	...	...	...	1	...	57
..	...	...	1	...	...	...	...	...	...	...	1	...	...	...	1	...	58
...	6	...	4	...	...	...	...	...	...	...	10	...	...	...	10	...	59
..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	60
.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	61
...	1	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	62
..	4	...	1	...	...	...	...	...	1	...	6	...	1	...	5	...	63
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	64
...	1	...	1	...	...	...	...	...	...	...	2	...	...	...	2	...	65
...	3	...	1	...	1	...	...	...	...	...	7	...	...	...	7	...	66
...	4	...	1	...	1	...	...	...	1	...	7	...	...	...	7	...	67
...	1	1	...	...	...	...	...	...	...	...	1	1	...	...	1	1	68
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	69
...	281	16	211	6	58	3	41	...	49	6	682	31	16	1	666	30	
	297		217		61		41		55		713		17		696		

28. TABULAR STATEMENT showing the number of Convicts sentenced to Transportation and Penal Servitude in the several Prisons in Scotland at 30th June 1863; the number so sentenced from that date to 30th June 1864; and the number remaining in Prison at 30th June 1864.

COUNTIES.	PRISONS.	Number in Prison at Commencement of Period.			Number in Prison at end of Period.			Number Sentenced to Penal Servitude during the year ended 30th June 1864.																			
								3 Years.		4 Years.		5 Years.		6 Years.		7 Years.		8 Years.		10 Years.		12 Years.		15 Years.		21 Years.		Life.		Total.	
		M.	F.	T.	M.	F.	T.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Aberdeen	Aberdeen	1	...	1	5	7	12	1	1	3	3	...	1	1	2	...	...	1	1	...	1	...	...	...	...	...	...	...	...	6	9
Argyle	Inveraray	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	3	...
Ayr	Ayr	...	53	53	...	89	89	...	...	3	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	6	...
Banff	Banff	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Berwick	Greenlaw	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dumfries	Dumfries	...	...	...	...	...	...	...	...	2	...	...	...	1	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	4	1
Edinburgh	Edinburgh	5	...	5	7	3	10	4	1	8	9	1	1	4	2	2	...	6	4	6	...	...	...	...	1	...	...	...	...	31	18
Fife	Cupar	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Dunfermline	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Forfar	Dundee	2	...	2	8	6	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Forfar	1	...	1	2	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Inverness	Inverness	1	...	1	2	1	3	...	...	1	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	2	1
Lanark	Glasgow	...	...	...	...	...	...	7	5	23	19	3	1	14	6	4	1	8	5	8	2	2	...	3	...	...	2	...	1	72	42
Perth	Perth	...	...	...	4	2	6	1	1	13	4	...	3	3	3	1	...	2	...	1	3	...	...	...	...	...	...	...	...	21	14
Roxburgh	Jedburgh	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Stirling	Stirling	...	...	...	1	3	4	...	2	...	1	...	...	...	1	1	...	...	...	...	...	...	...	...	1	...	...	...	...	1	5
	General Prison	85	244	329*	76	207	283†	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		97	297	394	107	319	426	14	10	55	36	4	6	26	14	9	1	17	11	15	7	2	...	4	2	1	2	...	1	147	90
								24		91		10		40		10		28		22		2		6		3		1		237	

* Including 4 in Lunatic Department.
† Including 6 in Lunatic Department.

29. TABLE showing the Number who have Escaped, and been Re-taken, during the period.

Counties.	Prisons.	Number who have Escaped.			Number who have been Re-taken.		
		M.	F.	T.	M.	F.	T.
Berwick,	Dunse,	1	...	1	1	...	1
Dumfries,	Dumfries,	1	...	1	1	...	1
Kincardine,	Stonehaven,	1	...	1	1	...	1
Renfrew,	Greenock,	1	...	1	1	...	1
Ross and Cromarty,	Dingwall,	...	1	1	...	1	1
Stirling,	Falkirk,	...	1	1	...	1	1
		4	2	6	4	2	6

30. TABLE showing the Number of Suicides during the period.

Counties.	Prisons.	Number of Suicides.	Date of Suicide.	Age.	Untried.	Convicted.
None.						

No. V.—INSPECTION OF LOCAL PRISONS.

Digest of Returns by County Prison Boards with reference to the System of Inspection prescribed by the 6th Rule for Prisons in Scotland, relative to the Prisons under their charge in the Year from 30th June 1863 to 30th June 1864.

Rule 6.—"County Boards shall provide for the inspection of each of their Prisons (including an examination of every Prisoner, and of every Cell and Room) by at least one of their own number, not less frequently than once in each month; "and the date of the Inspection, together with the names of the Visitors, shall be recorded in the Inspection Book, and the result shall either be entered there by the Inspecting Member, or a Special Report made by them "to the County Board; and, in either case, the Reports shall be transcribed in the Minutes of the proceedings of the County Board."

COUNTIES.	PRISONS.	Has the Rule been observed in all respects in each Prison?	If the Rule has not been observed in all respects, state to what extent not observed, with the reason.	Total number of Inspections during the year.	General Results of Inspection in regard to							Remarks.
					State of Buildings.	State of Prison Discipline and conduct of Officers.	Treatment of Prisoners.	Employment of Prisoners.	Instruction, Moral and Religious, of Prisoners.	Sufficiency of Exercise.	Health of Prisoners.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	
1 Aberdeen,	Aberdeen, ...	Yes.	.....	24	Tolerable.	Good.	Good according to Rule.	All suitably employed.	Regularly attended to.	Sufficient.	Good.	
	Peterhead, ...	Yes.	.....	13	Good order.	Good.	According to Rules.	Picking oakum, knitting stockings, making and mending Prisoners' clothes, washing, etc.	Chaplain visits Prisoners twice weekly.	According to Rules.	Good.	
	Fraserburgh,...	No.	Not observed owing to paucity of Members of Prison Board.	3	Outside Walls require harling.	Good.	Good.	None.	None.	As prescribed.	Good.	
	Huntly, ...	No.	Only 8 inspections—circumstances having occurred which prevented the usual number of inspections being made by the County Board.	8	Good.	Good.	According to Rules.	None.	Parish Minister visits occasionally.	None.	Good.	
2 Argyle.....	Inveraray,.....	Yes.	.....	15	Good.	Satisfactory.	Satisfactory.	All employed in suitable kinds of labour.	Attended to.	Sufficient.	Good.	
	Campbeltown,	Observed.	.....	21	Good.	According to Rules.	According to Rules.	Teasing oakum, and Prison labour.	Attended to by Chaplain and U.P. Church Missionary; Roman Catholics attended by Catholic Priest.	1½ hour per day.	Good.	
	Tobermory, ...	Not observed.	The old house is not visited, and the new one is not yet occupied.	None.	Condemned.	According to Rules.	According to Rules.	Net-making, etc.	None.	None.	.....	
	Lochgilphead,	No.	.....	8	Good.	.....	Good.	Teasing oakum.	.....	45 minutes daily.	Good.	
3 Ayr,.....	Ayr, ...	Observed.	.....	21	Good.	Good.	According to Rules.	Employed.	Under the Chaplain and Teacher.	Sufficient.	Generally very good.	These are independent of visits from the Prison Managers (*i.e.*, in reference to Female Convicts).
	Kilmarnock, ...	No visits during the year.										
4 Banff, ...	Banff, ...	No.	The Board had not 12 meetings last year, and when small-pox was believed to be in the Prison, the Board did not make visits.	6	Good.	Good.	Good.	Fully employed.	Satisfactory.	Yes.	Good.	Besides the six visits made by the Board, the clerk made several other visits.

INSPECTION OF LOCAL PRISONS—*continued.*

COUNTIES.	PRISONS.	Has the Rule been observed in all respects in each Prison?	If the Rule has not been observed in all respects, state to what extent not observed, with the reason.	Total number of Inspections during the year.	General Results of Inspection in regard to							REMARKS.
					State of Buildings.	State of Prison Discipline and conduct of Officers.	Treatment of Prisoners.	Employment of Prisoners.	Instruction, Moral and Religious, of Prisoners.	Sufficiency of Exercise.	Health of Prisoners.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	
	Keith, ...	No.	See Remarks.	3	Good.	Good.	Good.	Not employed, Prison being only legalized for 10 days.	None, Prison being only legalized for 10 days.	Same as Nos. 8 and 9.	Good.	There is no resident Member of the Board, but the Clerk and Chief Constable of Police are appointed to visit.
5 Berwick, ...	Greenlaw, ...	No.	Reference to correspondence with the late General Board of Prisons.	10	Good.	Good.	Good.	Mat-making, oakum teasing, sewing, and sand beating.	Good.	Sufficient.	Good, generally speaking.	
	Dunse, ...	.. ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	No regular system of inspection, as there are often no Prisoners in the Prison.
6 Bute, ...	Rothesay, ...	Yes.	.....	27	Good.	Good.	Good.	Very little employment to be had for them.	Well attended to.	Sufficient.	Generally good.	
7 Caithness,	Wick, ...	Observed.	.....	11	* Not Satisfactory.	Satisfactory.	Good.	All employed.	Attended to.	Sufficient.	Good.	* The three new Cells built here were roofed in during very wet weather, and then plastered before the walls had become dry. The consequence is, the plaster is blowing out, and in some places falling away.
8 Clackmannan,	Alloa, ...	It has.	.....	14	.....	.....	.....	.....	.....	.....	.....	These particulars are not specially referred to in the inspection book. The general entry being that the party inspected the Prison and found everything correct, and no complaints made by Prisoners.
9 Dumbarton,	Dumbarton, ...	Yes.	.....	12	Good.	Good.	According to Rule.	Various.	According to Rule.	Yes.	Good.	
	Helensburgh, } Kirkintilloch, }	....	....	....	....	....	....	... ...	....	....	....	The Keeper of Dumbarton Prison by appointment visits these Prisons quarterly, and reports the result to the County Board. They are also visited occasionally by Members of the County Board.
10 Dumfries,	Dumfries, ...	Yes.	.....	16	Good.	Good.	Good.	Fully employed.	Fully attended to.	Yes.	Generally good.	
11 Edinburgh,	Edinburgh, ...	Yes; so far as stated in columns 3 and 4.	In every case all the prisoners were not visited, but the visits were to such an extent as the Members thought to be necessary.	27 by Members of the Board.	Good.	Satisfactory.	In terms of Rules.	All engaged in suitable employment.	In accordance with Rules, and results satisfactory.	Sufficient.	Good.	
	Court Buildings Prison,	Do.	This Prison is principally visited by the Governor of the Prison of Edinburgh, who, in every instance, extends his visit to all the cells and prisoners.	5 by Members of the Board.	Good.	Satisfactory.	In terms of Rules.	Only prisoners under examination are confined here, and there is, therefore, no work done.	There is service once a week by one of the Teachers of the Prison of Edinburgh.	No airing-ground, but prisoners are only a few days in this Prison.	Good.	

	Musselburgh,	Do.	This Prison was visited by Members of the Board and by the Governor of the Prison of Edinburgh, who, in each instance, inspected every cell and visited every prisoner.	12 by Members of the Board, and 8 by the Governor.	Good.	Satisfactory.	In terms of Rules.	The periods of imprisonment are very short; convicted prisoners are employed in teasing oakum.	The Prisoners are visited and instructed by the Minister of the parish or his Assistant.	There is no airing-yard, but, the rooms being large, the prisoners can have sufficient exercise in them.	Good.	
12 Elgin, ...	Elgin, ...	Yes.	.....	12	In good condition, but accommodation insufficient.	Both very good.	In terms of Rules.	All engaged in suitable employment.	Regularly attended to.	Not sufficient, owing to limited accommodation.	Generally good.	
	Forres, ...	So far as stated in columns 3 & 4.	This Prison was visited by Members of Prison Board and the Governor of the Prison of Elgin.	2 by Members of the Board, and 6 by the Governor of Elgin Prison.	Good.	Good.	In terms of Rules.	No employment, as the Prison is only legalized for 10 days.	None, owing to short imprisonments.	None, owing to short imprisonments.	Good.	
13 Fife.....	Cupar, ...	Yes.	.....	53	Excellent.	Good.	According to Rules.	All employed.	Regularly attended to.	Sufficient.	Excellent.	
	Dunfermline,...	Yes.	.....	30	Good.	Good.	In terms of Rules.	According to Rule.	Satisfactory.	Ample.	Good.	
14 Forfar,.....	Dundee,.....	Yes.	.....	13	Good.	Good.	Good.	Various; weaving, heckling, teasing ropes, shoemaking, tailoring, etc.	In accordance with Rules, satisfactory; visitations of chaplain, and teaching of Chaplain and Teacher; Governor also himself occasionally reads and teaches.	Sufficient exercise—Rules fully observed.	Good.	
	Forfar, ...	.....	The Rule has been observed in all respects, except as to the number of inspections.	9 recorded.	Good.	Good.	Good.	Employed in weaving and winding, teasing oakum, hair, and tow strings; mat-making, sewing, and knitting.	The chaplain visits the prisoners in their cells, and performs divine service according to Rule.	Exercise fully observed.	Good.	
15 Haddington,	Haddington, ...	Yes.	.....	17	Very good.	Good.	According to Rules.	Ample.	Excellent.	Good.	Very good.	
16 Inverness,	Inverness, ...	Yes.	.....	16	Good.	Good.	Good.	Regular.	Sufficient.	Sufficient.	Very good.	
	Portree, ...	Yes.	.....	24	Good.	Good.	Good.	Fully employed.	The prisoners are taught the Scriptures and writing.	Yes.	Good.	
	Lochmaddy, ...	Yes.	.....	16	Good, a little damp latterly.	Good.	Good.	Regular.	Religious instruction regular, except during vacancy in the office of chaplain, in consequence of a vacancy in the parish.	Yes.	Generally good.	
	Fort-William,	Yes.	.....	25	Good.	Good.	Good, and conform to Rules.	Regular.	Regular.	Sufficient.	Good.	
17 Kincardine,	Stonehaven, ...	Yes.	.....	12	Unsatisfactory in consequence of alterations and repairs at present in progress.	Good.	According to Prison Rules.	Picking oakum, making wire chain, knitting, and sewing.	The instruction of the prisoners has been attended to.	Owing to the airing yard being for a time insecure, some of the prisoners did not get the usual exercise.	Good.	
18 Kinross, ...	Kinross,.....	Yes.	.....	12	Good.	*	Weaving and teasing oakum.	*	*	*	*	* No entry in Inspection Book in reference to these heads.
19 Kirkcudbright,	Kirkcudbright,	No.	No inspection in Nov., Feb., and June.	16	Good, accommodation insufficient and new Prison about to be built.	Good, so far as limited accommodation and construction of Prison will allow.	Good.	All convicted Prisoners employed.	Ample.	Not sufficient, owing to limited accommodation.	Generally good.	

INSPECTION OF LOCAL PRISONS—*continued.*

COUNTIES.	PRISONS.	Has the Rule been observed in all respects in each Prison?	If the Rule has not been observed in all respects, state to what extent not observed, with the reason.	Total number of Inspections during the year.	General Results of Inspection in regard to							REMARKS.
					State of Buildings.	State of Prison Discipline and conduct of Officers.	Treatment of Prisoners.	Employment of Prisoners.	Instruction, Moral and Religious, of Prisoners.	Sufficiency of Exercise.	Health of Prisoners.	
	1	2	3	4	5	6	7	8	9	10	11	
	Maxwelltown,	No.	No visits except in Nov., January, and April.	3	Good.	Good.	Good.	Partial, in consequence of short confinements.	None, except from the keeper.	Sufficient.	Good.	
20 Lanark, ...	Glasgow, ...	Yes.	.....	15 by Members of Prison Board, 2 by Inspecting Members of the Town-Council, and 2 by Government Inspector.	Good.	In accordance with Rules.	According to Rule.	According to Rule.	According to Rule.	Sufficient	Good.	
	Lanark, ...	Yes.	.....	26 by Members of Prison Board, 4 by Superintendent of Prisons, and 1 by Government Inspector.	Good.	Good.	According to Rule.	According to Rule.	According to Rule.	Sufficient.	Good.	
	Hamilton, ...	Yes.	.....	11 by Members of Prison Board, 3 by Superintendent of Prisons, and 1 by Government Inspector.	Good.	Good.	According to Rule.	According to Rule.	According to Rule.	Sufficient.	Good.	
	Airdrie, ...	Yes.	.....	7 by Members of Prison Board, and 8 by Superintendent of Prisons.	Good.	Good.	According to Rule.	According to Rule.	According Rule.	Sufficient.	Good.	
21 Linlithgow,	Linlithgow, ...	Nearly so.	No visits in November and December.	9 by Members of the Board, 6 by Clerk, 2 by the Magistrates of the Burgh of Linlithgow, 1 by the Recorder of Windsor, and 1 by Government Inspector.	In good condition.	Satisfactory.	In accordance with Rules.	Suitably employed.	Two religious services each week, and secular instruction when required.	Sufficient.	Good.	
22 Nairn, ...	Nairn, ...	No.	This Prison has been as long as 2 months and 9 days at a time without a Prisoner.	At least 6, although not recorded.	Good.	Good.	Good.	Teasing oakum, knitting, cleaning Prison, etc.	Strictly attended to.	Quite sufficient.	Good.	
23 Orkney, ...	Kirkwall, ...	No. See No. 3.	Prison frequently empty, and prisoners confined for only very short periods.	2	Good.	Satisfactory.	Good.	According to Rule.	Attended to.	Yes, in so far as the accommodation will admit.	Good.	
24 Peebles, ...	Peebles, ...	Yes.	.....	13	Good.	Good.	Good.	Regular.	Good and systematic.	Good.	Good.	Registers well kept, and everything in good order.
25 Perth, ...	Perth, ...	Yes.	.....	12	Good.	Good.	Good.	Good.	Good.	Good.	Good.	
	Dunblane, ...	Yes.	.....	17	Good.	Good.	Good.	Good.	Good.	Good.	Good.	
26 Renfrew, ...	Paisley, ...	Fully observed.	.....	24	Good.	Good.	In terms of Rules.	Regularly employed.	In terms of Rules.	Sufficient.	Good.	
	Greenock, ...	Not observed in all respects.	Visited also by the Magistrates and Sheriff.	8	Measures for erection of new Prison under consideration.	Good.	In terms of Rules.	Regularly employed.	In terms of Rules.	Sufficient.	Good.	
	Pollockshaws,	Not fully observed.	Small Prison.	11	Good.	Good.	In terms of Rules.	No employment in consequence of short periods of imprisonment.	No instruction given, owing to short periods of imprisonment.	Sufficient.	Good.	
27 Ross and Cromarty,	Dingwall, ...	Yes.	.....	31	Good.	Satisfactory.	According to Rules.	Various.	Attended to by Chaplain and	Sufficient.	Good.	

	Tain, ...	Yes.	.....	11	Good.	Good.	Good.	Teasing oakum, and cleaning about the Prison.	Good.	Yes.	Good.	The Prisoners are instructed by the Chaplain, the Rev. L. Rose.
	Cromarty, ...	Yes.	.....	12	In good repair.	Good.	According to Rules.	None.	Yes.	Yes.	Good.	
	Stornoway, ...	Yes.	.....	14	Apparently good, with the exception of occasional and partial dampness in bad weather, and bad ventilation in some of the fire-places.	According to Rules.	According to Rules.	None; from want of funds to purchase materials, the work not being profitable. If Prison Board would advance a small sum to purchase materials, Keeper thinks that work might be carried on to advantage.	Attended to by Prison Chaplain.	Yes, either in the open air, or in Airing-Gallery with openings to the fresh air.	Good; no case of physical illness during the year.	
28 Roxburgh,	Jedburgh, ...	Not quite.	One Member of the Visiting Committee omitted to inspect the Prison in his turn in May last.	11	.....	.....	.....	.....	.....	.....	.....	Satisfactory, but no opinion or remarks recorded beyond the general statement that everything was in good order, and no complaints made by any of the Prisoners.
	Hawick, ...	No.	Owing to the small number of Prisoners.	2	.....	.....	.....	.....	.....	.....	.....	Same remarks as in the case of Jedburgh Prison.
	Kelso, ...	No.	Do.	2	.....	.....	.....	.....	.....	.....	.....	The Prisons of Kelso and Hawick have been inspected, the former 6 times, and the latter 4 times, by the Governor of Jedburgh Prison, and everything in good order.
29 Selkirk, ...	Selkirk, ...	Yes.	.....	12	Good.	Good.	Proper.	Sand-breaking, mat stocking, shoemaking, teasing hair, etc.	Religious instruction by Chaplain, and instruction by teacher when required.	Sufficient.	Good.	
30 Stirling, ...	Stirling, ...	Yes.	.....	13	Good.	Good.	Good.	All employed.	Good.	Sufficient.	Good.	
	Falkirk, ...	No.	The prison is frequently without any prisoners.	5	Tolerable.	Good.	Good.	None.	None.	None.	Good.	
31 Sutherland,	Dornoch, ...	Yes.	.....	17	Good.	Good.	No complaints.	No Remarks recorded.	No remarks recorded.	Sufficient.	Good.	
32 Wigtown,	Wigtown, ...	Observed, as far as practicable.	The non-residence in the County of several Members of the Board during the past year has prevented the observance of the Rule in all respects.	9	Good.	Good.	Humane.	Regularly employed.	Attended to.	Sufficient.	Good.	
	Stranraer, ...	Not fully.	Owing to the absence of Members.	3	Good.	Good.	Proper.	Teasing oakum and sewing.	The Chaplain gives religious instruction.	Yes.	Good.	
33 Zetland, ...	Fort-Charlotte,	Yes.	.....	14	Ordinary.	Good.	Good.	In the service of the Prison and Hard Labour.	Good.	Yes.	Good.	

GENERAL PRISON.

No. VI.—Report by the Governor of the General Prison at Perth for the Year 1864; with Tables of Expenditure and State of Accounts.

General Prison, Perth, 19th January 1865.

Gentlemen,—I have the honour of transmitting to you my report for the year ending December 31, 1864, together with various returns showing the transactions of this establishment during that period.

I may be permitted to state of the Principal Officers, that I continue to receive from them the same efficient co-operation and assistance that I had the pleasure of acknowledging last year; while the appointment of Mr. Cruickshank to act as Deputy-Governor will, I hope, give me greater facility in carrying out the duties of my office, and also relieve me of much anxiety during any period at which I may be temporarily absent from the Prison.

Of the subordinate officers, both male and female, I am again enabled to speak favourably. With very few exceptions, they have discharged their duties with satisfaction to me, and with credit to themselves; so that order, cleanliness, and decency have been effectually maintained.

Two male officers only were reported to you for misconduct during the year. One of them was simply cautioned; whilst in the case of the other you thought it necessary to mark your sense of his irregularity by causing his deposit-money to be forfeited, and by postponing the period of his advancement of pay.

There has been no case of dismissal; but some changes in the staff have taken place. On the 27th May Henry Talbot, disabled by defective eyesight from active duty as a Warder, was appointed to the new office of Messenger; on the 21st June, Mr. James Moncur, Clerk in the Steward's Department, was promoted to be Second Clerk in the Governor's Office, in the room of Mr. John Baird, resigned; and at the same time the following appointments were made, viz., Mr. David Robertson to succeed Mr. Moncur; Mr. Alexander Fraser to be Teacher in the room of Mr. William Ferguson, resigned; Warder Alexander Larg to succeed Mr. Ferguson as Teacher of Music to Female Convicts; three male and four female Warders to vacancies; and five male Warders to offices created by the Secretary of State on the 27th May; an additional Teacher for the male Prisoners was also granted, but hitherto, from the difficulty of procuring an eligible person, a substitute only at daily wages has been employed to perform the duties; one male Warder died, and three female Warders resigned; two on account of failing health, and one on her marriage. The Rev. George Rigg, Visiting-Priest, resigned, on the 31st December.

From the Table showing the conduct of Prisoners, it would appear that the punishments for Prison offences have been greatly in excess of those of the preceding year, but though they have been more numerous, I am able to state that the increase is nominal rather than real, and that the difference can be satisfactorily accounted for; the punishments, moreover, have generally been for minor offences, and there has been no increase in the number for serious misconduct. The facilities afforded by the open-airing circle for attempts at communication between Prisoners are very great, and, as a preventive, the shifting of all offenders, in this respect, from the open to the compartment circle is found effective; so also the removal of all those who misconduct themselves, or behave irreverently during Divine service, from the body of the Chapel to the close boxes, has wrought a decided improvement in the demeanour of the Prisoners while attending the Chapel service; and these changes from the open circle to the compartments, and from the body of the Chapel to the boxes, are now recorded as punishments, whereas formerly they were not so; and as the cases are somewhat numerous, the punishments are proportionally increased.

Two assaults upon Officers by Prisoners were committed during the year. On the 16th May, one of the male Warders was knocked down and kicked; and on the 6th July, another male Warder was struck in the face by a Convict with a food vessel. In each case severe punishment was inflicted on the offender.

On the 1st October, two male Convicts, out of a party of seven, *en route* for Portsmouth, made their escape through the top of the Prison van, about one A.M., shortly after leaving Crewe, near to which station the dead body of one of them was found upon the line in the course of the day, and was identified at the Coroner's inquest by two of the Escort Officers. The other Convict has not since been heard of. On the 29th October two male Convicts contrived to get out of their cells in Wing I.; they then forced the padlock of a trap-door leading from a sink to a furnace above, broke open an ungrated skylight, got out upon the roof, and crept round to Wing II., where they slid down by means of an iron flue; meanwhile their movements having been discovered, an alarm was raised, and they were speedily recaptured in the airing-yard. In consequence of this attempt to escape, some structural defects were remedied; the hatchways in Wings I., II., and III. were fastened by strong bolt locks in addition to the padlocks, the skylights of the furnace rooms in Wing I. were secured with iron gratings, and the Matron's old room, which stood at the airing-yard door of Wing II., together with the iron flue connected with it, and by means of which the men descended from the roof, was taken down, and the materials removed.

The light having been deficient in the Male Department, new ceiling lights of translucent glass, and of enlarged size, have been fitted into Wing I., and the ceiling lights of Wings II. and III. have been re-glazed with glass of the same kind.

The alterations in the new Lunatic Department are now finished; the high wall separating this building from the new airing-ground has been lowered, whilst in one or two places adjoining the building the walls have been heightened, partly for security, and partly for the purpose of intercepting the view of the male's airing-yard from the public road. The new works for providing a constant and sufficient supply of water for the increased requirements of the Prison are in a forward state.

I have every reason to hope and believe that the Prison rules have been faithfully complied with throughout the year, with the exception of such cases only as have been duly reported, and brought under your notice.

The following Table is given in reference to the Trades in Prison :— (No. VI. *Continued.*)

TRADES.	ADMITTED DURING 1864.								LIBERATED OR REMOVED DURING 1864.							
	Had good knowledge of a Trade on Admission.		Had slight knowledge on Admission. Improved in the Prison.		Being taught Trades in the Prison.		TOTAL.		Had good knowledge of a Trade on Admission.		Had slight knowledge on Admission. Improved in the Prison.		Were taught Trades in the Prison.		TOTAL.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Baking,	1	...	1	...	...	...	2	...	1	...	1	...	2	...	4	...
Bookbinding	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...
Carpentry,	2	...	...	...	...	...	2	...	1	...	1	...	...	...	2	...
Matmaking,	2	...	6	...	87	...	95	...	...	...	8	...	121	...	129	...
Painting,	...	...	...	...	...	...	...	...	1	...	1	...	...	...	2	...
Shoemaking,	4	...	8	...	10	...	22	...	1	...	9	...	30	...	40	...
Tailoring	1	...	9	...	5	...	15	...	1	...	8	...	2	...	11	...
Weaving,	3	...	1	...	14	...	18	...	...	...	4	...	5	...	9	...
Winding,	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...
Dressmaking,	...	1	...	...	...	...	...	1	...	...	...	...	...	1	...	1
Knitting,	...	...	...	...	...	2	...	2	...	1	...	...	...	4	...	5
Sewing,	...	...	...	2	...	49	...	51	...	...	...	20	...	25	...	45
Shirtmaking,	...	45	...	12	...	51	...	108	...	21	...	42	...	60	...	123
Washing,*	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total,	13	46	25	14	118	102	156	162	5	22	32	62	160	90	197	174

* All the female convicts in the Second Reformatory Class are employed in rotation in washing and other household work, except those who may have forfeited the privilege, or are physically unfit for the labour.

The following Table sets forth the Distribution of the Accommodation of the Prison, and the manner in which it was occupied throughout the year :—

I.—PENAL DEPARTMENT.

1. ACCOMMODATION—	Males.		Females.		Both.
	Separation.	Association	Separation.	Association.	
Cells,	346	...	173	204	723
Dormitories,	...	...	...	18	18
Average Occupation of Hospitals,	...	8	...	18	26
Total,	346	8	173	240	767

2. OCCUPATION—	Prisoners Sentenced to Imprisonment.		Prisoners Sentenced to Transportation or Penal Servitude.		TOTAL.		
	M.	F.	M.	F.	M.	F.	Both.
At commencement of the year,	261	131	74	217	335	348	683
Admitted during the year :—							
From Local Prisons in Scotland,	211	133	108	12			
From Convict Department, Prison of Ayr,	...	...	...	43			
Transferred from Lunatic Department,	...	...	...	...			
Total Admitted,	211	133	108	55	319	188	507
Total who have been in the Prison,	472	264	182	272	654	536	1190
Liberated during the year :—							
By Expiry of Sentence,	247	130	...	...			
By Order on License,	...	...	...	50			
By Commutation of Sentence,	1	...	...	...			
By Free Pardon on Medical Grounds,	...	1	...	...			
Removed, viz. :—							
To Chatham,	...	...	36	...			
To Portland,	...	...	18	...			
To Portsmouth,	...	...	31	...			
To Woking,	...	...	9	...			
Escaped from Escort *en route* to Portsmouth,	...	...	2				
Transferred to Lunatic Department,	1	...	2				
Died,	5	1	1	4			
Total disposed of,	254	132	99	54	353	186	539
In Custody at the end of the year,	218	132	83	218	301	350	651
Daily Average during the year,	242	125	79	212	321	337	658

No. VI. (Continued.)

II.—LUNATIC DEPARTMENT.

1. Accommodation—

	Males.	Females.	Both.
Apartments for	33	13	46

2. Occupation—

	Inmates.		Both.
	Males.	Females.	
At commencement of the year,	20	12	32
Admitted during the year—			
From Local Prisons in Scotland,	4	1	
Transferred from the Penal Department,	3	...	
Total Admitted,	7	1	8
Total who have been in the Department,	27	13	40
Removed, viz. :—			
By Death,	2	2	
To Penal Department,	...	...	
Total disposed of,	2	2	4
Inmates at the end of the year,	25	11	36
Daily Average during the year,	22	12	34

The average daily amount of exercise throughout the year was—
For Convicts—males, 60, females, 90 minutes. Other Prisoners—males, 60, females, 60 minutes.

The following Table shows the conduct and punishments of all the Prisoners in custody during the year; also, the number liberated, and the number of those who received gratuities, or good-conduct money, in terms of regulations :—

Good.		Tolerable.		Bad.		Total.		Number not Punished.		Number Punished.		Number of Punishments.		Number Liberated.		Number who received Gratuities, or Good-Conduct Money.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
563	495	48	41	67	13	678	549	500	455	178	94	412	130	248	181	190	145
1058		89		80		1227		955		272		542		429		335	

I have the honour to be, Gentlemen, your most obedient Servant,

Fred. S. Parkyn, *Governor.*

To the Managers of the General Prison for Scotland, Edinburgh.

No. VII.—Analysis of Ages and corresponding Sentences of all the Prisoners who were during the Year 1864 in the General Prison at Perth, exclusive of the Lunatic Department.

Sentences.		12 years and under.		16 years and above 12.		21 years and above 16.		30 years and above 21.		40 years and above 30.		50 years and above 40.		60 years and above 50.		Above 60 years.		Total.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
9 months and under 12,	Imprisonment.	1	...	8	1	41	16	40	33	23	23	14	9	7	7	...	1	134	90
12 months and under 18,	Imprisonment.	...	...	12	3	61	21	77	55	39	37	24	16	7	4	5	1	225	137
18 mths. and under 2 yrs.,	Imprisonment.	...	...	4	...	26	7	38	12	19	7	10	5	2	1	1	...	100	32
2 years and upwards,	Imprisonment.	...	...	...	1	2	1	7	1	2	1	2	1	...	...	...	...	13	5
14 years,	Transportation.	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...
15 years,	Transportation.	...	...	...	...	...	1	...	...	...	1	...	...	...	1	...	...	...	3
21 years,	Transportation.	...	...	...	...	...	...	...	3	...	...	...	...	...	..	...	...	...	3
Life,	Transportation.	...	...	...	...	...	...	...	1	...	3	...	...	...	...	...	...	...	4
3 years,	Penal Servitude.	...	...	...	...	3	5	7	10	3	8	1	4	...	...	...	1	14	28
4 years,	Penal Servitude.	...	...	...	1	21	15	17	36	16	20	4	6	...	5	...	...	58	83
5 years,	Penal Servitude.	...	...	...	...	9	2	4	8	1	8	3	2	...	1	...	...	17	21
6 years,	Penal Servitude.	...	...	...	...	5	6	12	20	10	7	...	9	...	2	...	1	27	45
7 years,	Penal Servitude.	...	...	...	...	2	1	9	6	5	4	4	...	...	...	...	...	20	11
8 years,	Penal Servitude.	...	...	...	...	3	6	6	18	5	9	1	5	...	2	...	...	15	40
10 years,	Penal Servitude.	...	...	...	...	2	3	9	7	8	3	...	1	...	3	...	1	19	18
12 years,	Penal Servitude.	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	1	1
14 years,	Penal Servitude.	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	2	...
15 years,	Penal Servitude.	...	...	...	...	...	1	1	2	4	...	1	1	...	...	...	...	6	4
21 years,	Penal Servitude.	...	...	...	...	1	1	...	3	...	...	...	...	..	...	...	...	1	4
Life,	Penal Servitude.	...	...	...	...	...	2	...	4	...	...	1	1	...	...	...	...	1	7
Total,		1	...	24	6	176	89	229	219	137	131	65	60	16	26	6	5	654	536

o. VIII.—Table showing the Number of Prisoners **received** into the General Prison at Perth, and the Counties within which their Offences were committed, in the **Year ended 31st December 1864.**

Counties.	Sentenced to Imprisonment.		Sentenced to Penal Servitude or Transportation.		Counties.	Sentenced to Imprisonment.		Sentenced to Penal Servitude or Transportation.		Counties.	Sentenced to Imprisonment.		Sentenced to Penal Servitude or Transportation.	
	M.	F.	M.	F.		M.	F.	M.	F.		M.	F.	M.	F.
berdeen, . .	13	...	6	1	Brought forward,	100	50	45	24	Brought forward,	189	128	107	48
rgyle, . . .	5	2	3	...	Haddington, .	1	...	1	...	Roxburgh, . .	4	1	...	...
yr, ...	6	4	2	1	Inverness, . .	1	2	1	...	Selkirk, . . .	9	1	...	...
anff, ...	...	...	...	1	Kincardine, . .	1	...	...	...	Stirling, . . .	7	4	1	6
erwick, . . .	7	...	1	...	Kinross, . . .	1	...	...	...	Sutherland, . .	1	...	...	...
ute, ...	2	2	...	1	Kirkcudbright, .	3	1	1	1	Wigtown, . .	4	...	...	1
ithness, . .	...	2	...	...	Lanark, . . .	59	54	45	18	Zetland, . . .	1	...	...	...
ackmannan, .	1	...	...	...	Linlithgow, . .	5	2	2	...	From Prisons in				
umbarton, . .	...	2	2	1	Nairn, . . .	...	1	1	...	England, . .	...	...	...	...
umfries, . .	3	1	1	1	Orkney, . . .	...	...	...	...	Had Licenses				
linburgh, . .	39	25	15	11	Peebles, . . .	...	...	...	...	Revoked, . .	...	...	...	...
lgin, . . .	3	1	...	...	Perth, . . .	6	2	5	2					
ife, ...	4	3	3	...	Renfrew, . . .	11	14	5	3		215	134	108	55
orfar, . . .	17	8	12	7	Ross & Cromarty,	1	2	1	...		349		163	
Carry forward,	100	50	45	24	Carry forward,	189	128	107	48	Total,	512			

o. IX.—STAFF of OFFICERS and SCALE of the SALARIES in the General Prison for Scotland at Perth. Approved of by the Secretary of State.

	SALARIES. Minimum.	SALARIES. Annual Increase.	SALARIES. Maximum.	ALLOWANCES.
I.—MALE OFFICERS.				
Governor,	£400 0 0	£10 0 0	£500 0 0	Residence with Gas.
Chaplain,	200 0 0	10 0 0	300 0 0	Do.
Visiting Roman Catholic Priest,	70 0 0	.....	70 0 0	
Resident Surgeon,	200 0 0	10 0 0	300 0 0	Do.
Visiting Physician,	100 0 0	.....	100 0 0	
Deputy Governor and Steward,	200 0 0	10 0 0	300 0 0	Do.
Chief Clerk,	120 0 0	4 0 0	150 0 0	Do.
Assistant-Clerk,	90 0 0	3 0 0	120 0 0	
Clerks in Steward's Department,	70 0 0	3 0 0	100 0 0	One Residence with Gas.
Clerk of Works,	100 0 0	5 0 0	150 0 0	
Head Warder,	75 0 0	2 10 0	100 0 0	House, Gas, and Uniform.
Trades' Warders,	55 0 0	2 0 0	75 0 0	Do.
Scripture Reader,	100 0 0	3 0 0	130 0 0	
Teachers,	70 0 0	2 0 0	90 0 0	
Superintendent of Department for Criminal Lunatics,	60 0 0	2 0 0	80 0 0	House, Fuel, Gas, and Uniform.
Warders,	52 0 0	1 0 0	62 0 0	15 House, Gas, and Uniform, and 21 Uniform.
Messenger,	30 0 0	.....	30 0 0	
Allowance to Teacher of Music,	8 0 0	.....	8 0 0	
Allowance to Precentor,	8 0 0	.....	8 0 0	
Labourer in Store,	35 0 0	1 0 0	45 0 0	
II.—FEMALE OFFICERS.				
Matron or Superintendent,	175 0 0	5 0 0	225 0 0	Furnished Residence with Gas.
Sub-Matron,	80 0 0	4 0 0	120 0 0	Do.
Scripture-Readers,	75 0 0	2 0 0	95 0 0	
Teachers or School Mistresses,	55 0 0	1 0 0	65 0 0	
Superintendent of Convicts, viz., of Work,	52 0 0	1 0 0	62 0 0	Furnished Lodgings and Gas.
Warders,	35 0 0	1 0 0	45 0 0	Furnished Lodgings, Gas, and Uniform.
Outer Gatekeeper (a Warder's wife),	15 0 0	.....	15 0 0	
Sick Nurse,	45 0 0	1 0 0	55 0 0	Do.
Housekeeper to Female Warders,	40 0 0	1 0 0	50 0 0	Furnished Lodgings and Gas.

* One doing duty in the Prison of Ayr.

No. X.—View of the Outlay connected with the Prisoners' Labour and of the Returns therefrom for the Year ended 31st December 1864.

Work.—Debtor.	£	s.	d.	£	s.	d.
I. To value of Stock on hand at 31st December 1863, viz. :—						
1. Undisposed of Goods,	715	14	7			
2. Material,	620	8	8			
3. Tools and Implements,	112	5	2			
				1448	8	5
II. To Outstanding Accounts for Sales and Work executed at 31st December 1863, brought from last year's account,	...			636	11	6
III. To Outlay this year for Material, Implements, and Carriage of Goods, viz. :—						
Material, &c.,	3302	11	7			
Implements,	43	10	4			
				3346	1	11
Sum of Debit,				5431	1	10

Creditor.	£	s.	d.	£	s.	d.
I. By Loss on Outstanding Accounts of 1863 and previous years, being Abatements, and Losses at Settlement, by Composition on Bankrupt Estates, &c.,				34	1	7
II. By Goods returned by Purchasers and Employers on Accounts incurred in 1863,				0	7	6
III. By Receipts by the Governor, viz. :—						
1. Outstanding Accounts of 1863 and previous years,	499	13	7			
2. For Sales and Work executed to Purchasers and Employers during the year 1864,	3050	8	11			
				3550	2	6
IV. By Current Expenses of the General Prison, viz. :—						
1. Value of Material, &c., issued for the use of the Prison,	1362	14	3			
2. For Earnings rated to Prisoners thereon,	831	16	0			
				2194	10	3
V. By Outstanding Accounts due by Purchasers and Employers, at 31st December 1864, viz. :—						
1. For Sales and Work executed in 1863, and previous years,	102	8	10			
2. For Sales and Work executed in 1864,	609	17	1			
				712	5	11
VI. By Value of Stock on hand at 31st December 1864, viz. :—						
1. Undisposed of Goods,	773	5	5			
2. Material,	627	4	0			
3. Implements of Labour,	121	2	9			
				1521	12	2
Sum of Credit,	...			8012	19	11
Balance, being nett available profits this year,				£2581	18	1

General Prison, Perth, 10th January 1865.

Fred. S. Parkyn,
Governor.

No. XI.—TABLE showing, in classified form, the Expenditure of the General Prison at Perth, and the total Cost of each Prisoner in the year ended 31st December 1864.

HEAD OF SERVICE	Value of Stock on hand at 31st December 1863.	Outlay for the year.	Gross Expenditure for the year.	Deduct Stock on hand at 31st December 1864.	Deduct also Expenditure connected with Labour, carried to Labour Account.	Nett Expenditure for the year.	Yearly cost per Prisoner, the average number in custody being 692.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Salaries of Principal Officers and Clerks,	...	*2956 16 10	*2956 16 10	...	...	*2956 16 10	4 5 6
Wages of Subordinate Officers,	...	3182 9 6	3182 9 6	...	...	3182 9 6	4 12 0
Salaries and Wages of Manufacturing Department,	...	473 1 7	473 1 7	...	...	473 1 7	0 13 8
Uniforms for Officers,	...	213 5 4	213 5 4	...	...	213 5 4	0 6 2
Prison Diet,	22 19 10	4231 13 10	4254 13 8	33 19 6	...	4220 14 2	6 2 0
Clothing for Prisoners,	2 9 0	1613 4 7	1615 13 7	7 2 0	...	1608 11 7	2 6 6
Bedding for do.,	10 10 0	294 4 10	304 14 10	53 0 6	...	251 14 4	0 7 3
Medicines, Surgical Instruments, etc.,	...	91 5 0	91 5 0	...	...	91 5 0	0 2 8
Medical Comforts (Extras for the Sick and Inmates of the Lunatic Department),	1 14 8	305 17 7	307 12 3	1 19 11	...	305 12 4	0 8 10
Clothing of Prisoners on their Liberation,	...	131 1 1	131 1 1	...	...	131 1 1	0 3 9
Travelling Expenses of do.	...	119 1 8	119 1 8	...	...	119 1 8	0 3 5
Good Conduct Money & Gratuities do.	...	395 10 2	395 10 2	...	...	395 10 2	0 11 5
Furniture and Fittings,	0 12 7	347 17 11	348 10 6	0 12 7	...	347 17 11	0 10 1
Kitchen Utensils, Crockery, Cutlery, etc.,	...	72 15 1	72 15 1	...	...	72 15 1	0 2 1
Fuel,	134 10 9	749 7 4	883 18 1	219 10 5	...	664 7 8	0 19 2
Lighting the Prison,	...	228 6 9	228 6 9	...	...	228 6 9	0 6 7
Lighting Officers' Houses and Outhouses,	...	99 14 5	99 14 5	...	...	99 14 5	0 2 11
Washing, including repair of Linen,	...	168 6 3	168 6 3	...	...	168 6 3	0 4 10
Soap, and Scouring and Cleaning Articles,	...	206 11 6	206 11 6	...	...	206 11 6	0 6 0
Brushes, Brooms, Mops, etc.,	...	28 11 10	28 11 10	...	...	28 11 10	0 0 10
Funeral Expenses,	...	7 2 11	7 2 11	...	...	7 2 11	0 0 2
Various small disbursements,	...	173 14 7	173 14 7	...	...	173 14 7	0 5 0
Rent, Feu-duty, and Taxes,	...	194 6 0	194 6 0	...	...	194 6 0	0 5 7
Cooking,	...	45 15 0	45 15 0	...	...	45 15 0	0 1 4
Cleaning the Prison,	...	217 14 4	217 14 4	...	...	217 14 4	0 6 4
Material for Work, and Carriage of Goods,	...	3302 11 7	3302 11 7	...	3302 11 7	...	...
Implements of Labour,	...	43 10 4	43 10 4	...	43 10 4	...	...
	172 16 10	19893 17 10	20066 14 8	316 4 11	3346 1 11	16404 7 10	23 14 1
Deduct:—							
1. Profit arising from Labour of Prisoners,					2581 18 1		
2. Incidental Receipts (Sales of Old Stores), etc.,					119 5 11		
						2701 4 0	3 18 1
Nett Amount of current Expenses and cost per Prisoner,						13703 3 10	19 16 0
Add:—							
Paid for Ordinary Works and Repairs (not included in the above Amount),						1652 12 8	2 7 10
Total Expenditure and Cost per Prisoner,						15355 16 6	22 3 10

* Including £45, 13s. 1d. paid to a Teacher doing duty among Convicts in the Prison of Ayr, equivalent to a deduction of 1s. 4d. per head.

General Prison, Perth, 10th January 1865. FRED. S. PARKYN, *Governor.*

No. XII.—TABLE exhibiting a Comparative View of the Cost per Prisoner in the General Prison at Perth, exclusive of the Cost for Ordinary Works and Repairs, in each year ended 31st December, from 1858 to 1864 inclusive.

NOTE.—The travelling expenses of prisoners from the Prison to their usual places of residence, amounting to £119, 1s. 8d., and Feu-duty amounting to £125 (together £244, 1s. 8d.) are included in the current expenses for 1864, and represent an increase of 7s. 1d. in the cost per prisoner, as compared with previous years.

	In 1858, during which the average number of prisoners in custody was 561.	In 1859, during which the average number of prisoners in custody was 632.	In 1860, during which the average number of prisoners in custody was 675.	In 1861, during which the average number of prisoners in custody was 637.	In 1862, during which the average number of prisoners in custody was 688.	In 1863, during which the average number of prisoners in custody was 714.	In 1864, during which the average number of prisoners in custody was 692.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Salaries, wages, and uniform of officers	8 3 1^{1}	8 3 4^{6}	8 16 1^{10}	9 6 11^{7}	8 14 11^{7}	9 6 0	9 17 4
Diet	6 5 0^{1}	6 0 10^{10}	6 19 3^{4}	7 5 6^{3}	6 9 9^{10}	6 9 9	6 2 0
Contingent alimentary charges	0 8 3^{4}	0 7 7^{1}	0 7 5^{4}	0 9 4^{3}	0 8 4	0 6 11	0 8 10
Medicine	0 3 7^{5}	0 3 0^{8}	0 3 7^{3}	0 4 5^{5}	0 3 0^{1}	0 2 8	0 2 8
Clothing	1 5 1^{7}	2 1 2^{4}	1 6 11^{6}	1 11 6^{6}	1 7 5^{8}	1 15 9	2 6 6
Bedding	0 5 8	0 16 8^{10}	0 11 7^{6}	0 6 0^{8}	0 5 5^{3}	0 5 8	0 7 3
Lighting Prison	0 7 9^{2}	0 8 5^{4}	0 9 7^{2}	0 9 4^{11}	0 6 6	0 6 1	0 6 7
Lighting officers' houses and outhouses	0 2 11^{7}	0 3 3^{11}	0 3 5^{4}	0 3 11^{3}	0 2 9^{7}	0 2 6	0 2 11
Fuel	1 0 8^{5}	1 2 11	1 4 0^{1}	1 4 7^{9}	0 19 4^{7}	0 19 5	0 19 2
Cooking and washing	0 8 4^{9}	0 7 10^{10}	0 9 5^{9}	0 8 9^{1}	0 8 5^{5}	0 9 1	0 12 2
Furniture, fittings, &c.	0 9 0	1 5 0^{1}	0 7 2^{9}	0 7 3^{5}	0 5 8^{3}	0 5 10	0 13 0
General contingent charges	1 7 6	1 5 4^{11}	1 11 11^{7}	1 17 3^{10}	1 11 9^{6}	1 13 8	1 15 8
Gross cost per prisoner	20 7 1^{5}	22 5 9^{11}	22 10 9^{5}	23 15 2^{9}	21 3 7^{9}	22 3 4	23 14 1
Deduct I. Earnings per prisoner available for Prison	2 14 1^{10}	2 17 8^{3}	3 5 8^{6}	3 8 8^{7}	3 1 10^{6}	2 18 11	3 14 8
II. Incidental Receipts	...	...	...	...	...	...	0 3 5
Deduct Average of Travelling Expenses and Feu-duty in 1864	17 12 11^{7}	19 8 1^{8}	19 5 0^{11}	20 6 6	18 1 9^{3}	19 4 5	19 16 0
	...	...	...	...	...	...	0 7 1
Nett cost per prisoner	17 12 11^{7}	19 8 1^{8}	19 5 0^{11}	20 6 6^{2}	18 1 9^{3}	19 4 5	19 8 11

General Prison, Perth, 10th January 1865. FRED. S. PARKYN, *Governor.*

No. XIII.

STATE OF ACCOUNTS

OF THE

GOVERNOR OF THE GENERAL PRISON FOR SCOTLAND AT PERTH.

Year ended 31st December 1864.

FUNDS FOR EXPENSES OF THE GENERAL PRISON AT PERTH.

1. Current Expenses of the Establishment.

Receipts—being Charge.

1. Balances brought from last year's accounts, viz.:—		
(1.) Amount due by Governor on Account of current expenses,	£3,900 4 10	
(2.) Amount due by purchasers of Manufactured Goods, and Employers of Labour,	636 11 6	
		£4,536 16 4
2. Cash received by the Governor of the General Prison from the Queen's and Lord Treasurer's Remembrancer in Scotland, in full of Issues by the Lords Commissioners of Her Majesty's Treasury from Grants of Parliament for defraying the current expenses of the establishment of the General Prison,		11,120 0 0
3. Cash received, being incidental receipts from the General Prison for the year 1864,		119 5 11
4. Proceeds of Labour of Prisoners in the General Prison in the year 1864, viz.:—		
(1.) Money received for sales and deliveries of Work,	£3,050 8 11	
(2.) Value of Materials issued for the use of the Prison in making and repairing clothing, &c., for prisoners, and making furniture, fittings, and repairs, included in the Discharge,	£1,362 14 3	
(3.) Value of labour of prisoners on materials issued for Prison use, and in domestic Prison services, included in the Discharge,	831 16 0	
(4.) Account for sales and deliveries of work outstanding at 31st December 1864,	609 17 1	
		5,854 16 3
5. Interest accrued on funds in Bank,		30 17 6
Amount of Charge,		£21,661 16 0

Expenditure—being Discharge.

1. Payments in 1864 on account of liabilities for expenses of the establishment of the General Prison, incurred for supplies, &c., during the year 1863,		£3,231 4 5
2. Current Expenses of the Establishment of the General Prison incurred in the year 1864, viz., Expenses paid during the year, including value of materials issued from the labour stores for Prison use, and labour of prisoners thereon, and on domestic Prison purposes,		16,152 12 9
3. Payment to the Queen's and Lord Treasurer's Remembrancer in Exchequer, as profit arising on the labour of Convicts during the year ended 31st December 1863,		883 15 0
4. Loss on outstanding accounts of 1863 and previous years, being abatements allowed at settlement, and losses by composition on bankrupt estates,		34 1 7
5. Value of goods returned by purchasers and employers on accounts incurred in 1863,		0 7 6
6. Balances at credit carried to next year's accounts, viz.:—		
(1.) Amount due by Governor on account of current expenses,	£647 8 10	
(2.) Amount due by purchasers of Manufactured Goods and Employers of Labour,	712 5 11	
		1,359 14 9
Amount of Discharge,		£21,661 16 0

2. Income-Tax on Salaries of Officers.

1. Cash received from Officers,	£53 3 11	1. Paid to Collector in Exchequer,	£53 3 11

3. Expenses of Ordinary Works and Repairs at General Prison.

Receipts—being Charge.

1. Cash remitted to the Queen's and Lord Treasurer's Remembrancer by the Lords Commissioners of the Treasury, in full of Issues from the grant of Parliament for payment of ordinary works and repairs, viz.:—		
25th May 1864,	£1,101 7 2	
3d November 1864,	171 5 6	
		£1,272 12 8
2. Cash from the Managers, being Balance of Funds in their hands for works at the General Prison, viz.:—		
7th June 1864,		380 0 0
Amount of Charge,		£1,652 12 8

Expenditure—being Discharge.

Payments on account of Ordinary Works and Repairs,	£1,652 12 8
Amount of Discharge,	£1,652 12 8

General Prison, Perth,
10*th January* 1865.

Fred. S. Parkyn, *Governor.*

No. XIV.

Report by the Rev. William Brown, Chaplain of the General Prison at Perth, for the Year 1864.

General Prison, Perth, 13th January 1865.

Sir,—In submitting, through you, to the Managers of the General Prison for Scotland, this my Twentieth Annual Report, a vidimus of transactions in the Chaplain's Department during the year 1864, I have the honour, in pursuance of my instructions, to state that the Rules and Regulations applicable to my duties have been faithfully adhered to.

The following Table shows the number of Prisoners—Male and Female, Adult and Juvenile, also the age of the oldest and youngest, as per Criminal Register—admitted and re-admitted during the year; including, as regards the Admissions, 7 female convicts who had been removed in 1863 to the Auxiliary Prison at Ayr, and were re-transferred in 1864; 6 of these, however, having been registered as re-admitted Prisoners prior to their removal, are not included in the number of re-admissions :—

PRISONERS.	Males.			Females.			Total.			Age of Oldest.		Age of Youngest.	
	Ad.	Juv.	Total.	Ad.	Juv.	Total.	Ad.	Juv.	Total.	Male.	Female.	Male.	Female.
Admitted, ...	297	26	323	189	...	189	486	26	512	63	66	13	16
Re-admitted, ...	91	2	93	68	...	68	159	2	161	63	66	13	19

The re-admitted Prisoners, in all 161—93 males and 68 females—left the General Prison as follows :—

Year, ...	1842.		1844.		1845.		1849.		1851.		1852.		1853.		1854.		1855.		1856.		1857.		1858.		1859.		1860.		1861.		1862.		1863.		1864.		Total.	
Sexes,.....	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Number,...	1	...	...	1	1	...	1	...	2	...	1	...	1	...	1	...	3	...	1	1	5	3	7	2	6	3	2	6	6	12	12	18	27	11	16	11	93	68
Total,.....	1		1		1		1		2		1		1		1		3		2		8		9		9		8		18		30		38		27		161	

The number of Prisoners in custody at the close of the year was 687—326 males and 361 females. Of these, 261 had been in the General Prison before; 76 males and 139 females once; 12 males and 28 females twice; and 5 males and 1 female, three times. The whole were classified thus :—

IN THE MAIN PRISON AND SUBSIDIARY WARDS.	Under Charge.						Re-Admissions.					
	Males.		Females.		Total.		Males.		Females.		Total.	
	Ad.	Juv.	Ad.	Juv.	Ad.	Juv.	Ad.	Juv.	Ad.	Juv.	Ad.	Juv.
Sentenced to—												
Imprisonment (*a*)	195	23	131	1	326	24	41	2	38	...	79	2
Transportation (*b*)	...	...	7	...	7	...	...	...	1	...	1	...
Penal Servitude (*c*)	83	...	211	...	294	...	49	...	121	...	170	...
Lunatic Criminals (*d*)	23	2	11	...	34	2	1	...	2	...	3	...
	301	25	360	1	661	26	91	2	162	...	253	2
Total,.....	326		361		687		93		162		255	

References:
(*a*) Males and females from 9 months, to periods not exceeding two years.
(*b*) Females, from 15 to 21 years, four for life; two—c/ns. 293/20, 385/21—having forfeited their order of license were returned to complete their sentence.
(*c*) Males from 3 to 21 years; and females from 3 to 21 years—7 for life.
(*d*) Including 2 males and 4 females, insanity having supervened since their admission.

The following Table shows how often the prisoners in custody, at the close of the year, so far as I have been able to ascertain, had formerly been in confinement, in Local and other Prisons; also how many of them had been in the General Prison before, and how often :—

PRISONERS IN CUSTODY.		NUMBER OF PREVIOUS IMPRISONMENTS IN LOCAL AND OTHER PRISONS.																										Total.				OF WHOM IN THE GENERAL PRISON BEFORE.			
		0	1	2	3	4	5	6	7	8	9	10	11	13	15	18	21	24	25	32	35	37	42	51	57	73	89	Males.		Females.		Never.	Once.	Twice.	Three Times.
																												Ad.	Juv.	Ad.	Juv.				
Male	Adults.....	106	31	27	15	7	5	4	2	2	4	...	3	...	1	...	2	...	...	...	...	...	...	...	1	...	...	210	...	...	...	426	..	..	...
	Juveniles...	3	10	3	2	3	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	23	...	...				
Female	Adults.....	53	16	17	24	22	21	11	5	4	2	3	3	2	1	1	1	...	2	1	...	...	...	1	...	1	1	...	...	192	...				
	Juveniles...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1				
Male	Adults.....	...	11	15	10	13	4	6	2	2	2	4	1	2	1	...	1	...	...	...	...	...	...	...	...	...	...	74	...	...	...				
	Juveniles...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...				
Female	Adults.....	...	8	10	15	25	23	15	12	7	4	2	3	1	4	2	3	1	2	...	1	...	1	...	...	...	...	...	...	139	...	...	215	.	...
	Juveniles...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...				
Male	Adults.....	...	...	4	...	4	3	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	...	...	...				
	Juveniles...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...				
Female	Adults.....	...	...	4	4	4	7	...	3	...	2	...	2	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	28	...	...	...	40	...
	Juveniles...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...				
Male	Adults.....	...	...	...	...	...	2	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...				
	Juveniles...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...				
Female	Adults.....	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	..	6
	Juveniles...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...				
Total,...		163	76	80	70	80	63	42	24	17	15	9	12	6	7	3	7	1	4	1	1	1	1	1	1	1	1	301	25	360	1	426	215	40	6
																												326		361		687			

(No. XIV. *Continued.*)

The precedents of the Juveniles are indicated in the subjoined synopsis :—

MALES.		FEMALES.		TOTAL.		DOMESTIC CONDITION.
Cared for.	Neglected.	Cared for.	Neglected.	Cared for.	Neglected.	
3	8	...	...	3	8	Have Father and Mother.
...	3	...	...	...	3	„ Father only.
...	1	...	1	...	2	„ Father and Stepmother.
2	4	...	...	2	4	„ Mother only.
1	...	...	...	1	...	„ Mother and Stepfather.
...	3	...	...	...	3	Are Orphans.
6	19	...	1	6	20	
25		1		26		

The following Table gives a comparative view of the state as to Education, on Admission, and on the 31st of December, of 539 Prisoners—240 males and 299 females—who have been here for three months and upwards :—

		Could not read at all.		Could read with difficulty.		Could read well, that is, could read any common book easily.		Could not write at all.		Could sign their name merely.		Could write with difficulty.		Could write well.		Had a knowledge of Arithmetic.		Improved in other branches of Instruction.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
62 Males and 58 Females have received instruction for three months, but for less than six months, ...	On admission,	7	10	15	16	40	32	12	16	2	1	29	29	19	12	26	4	...	...
	On 31st December,	3	7	13	13	46	38	4	9	1	2	28	26	29	21	33	10	...	...
125 Males and 53 Females have received instruction for six months, but for less than one year, ...	On admission,	20	11	36	22	69	20	29	24	6	2	56	25	34	2	42	1	...	...
	On 31st December,	4	3	28	20	93	30	3	6	4	4	49	31	69	12	75	11	...	...
53 Males and 188 Females have received instruction for one year and upwards, ...	On admission,	6	18	18	69	29	101	12	53	3	14	27	106	11	15	20	10	...	...
	On 31st December,	5	7	7	38	41	143	7	15	1	13	17	67	28	93	28	55	...	...

The Prisoners in general are not indifferent as to improvement in secular knowledge, which the Educational Tables indicate. Many of them evince considerable anxiety in the acquisition of the ordinary branches of learning. They are all statedly examined by myself, in presence of their respective Teachers, as to their proficiency. I have pleasure in being able to add that nothing can exceed the order and decorum maintained by them in the Chapel during Divine Service; nor are they inattentive to religious instruction regularly imparted to them.

The Books, religious and secular, of which they have a weekly supply, tend to relieve the monotony of their position, and to elevate their minds.

The sick in the Hospitals I visit daily. Refractory Prisoners I also visit daily, when in punishment cells.

During the past year the number of Prisoners discharged was 540, viz., 352 males and 188 females, including 8 males and 7 females by death. Of the males, 96 Convicts were removed to Public Works in England.

The Table appended hereto gives a comparative view of their educational state, as on admission and at departure, with their ages and sentences.

Of 248 discharged male prisoners (exclusive of the 8 by death, and the 96 Convicts removed to Public Works), 97 are entered in my Register as expected to do well, and 77 as having got work. Of those released prior to 1864, I also ascertained that 23 had, in addition to the number already reported on, found employment. Of 181 liberated females (exclusive of the 7 by death), 11 are recorded by the Matron hopeful as to their future career; 27 got work on liberation; 82 had friends willing to receive them; 7 were sent to Houses of Refuge; and 1 emigrated to Australia.

My correspondence with liberated Prisoners and their friends, also with the friends of female Convicts, who, in virtue of good conduct and industry, are entitled to a remission of sentence, has been throughout the year satisfactory. My visits, as far as practicable, to outgone Prisoners, are also gratefully received.

On the 14th of July, Mr. Alexander Fraser entered upon duty as a Teacher in the Establishment.

In concluding this Report, it becomes me to state that the Presbytery of Perth, on the 14th of December last, were pleased to confer Ordination upon me; and duly thereafter to appoint, in the absence of elders, two Assessors (Messrs. Milne and Burdon, Ministers in Perth) to act with me in the discharge of my clerical functions, conformably to the constitution of the Church of Scotland.

I have the honour to remain, Sir, your most obedient Servant,

WILLIAM BROWN, *Chaplain.*

To John Hill Burton, Esquire, LL.D.,
&c. &c. &c.

(No. XIV. *Continued.*)

COMPARATIVE VIEW of the Educational State of Prisoners discharged during the year, as on Admission and Departure, with their Ages and Sentences.

MALE DEPARTMENT.—On Admission (A.) and at Departure (D.)

	RECORDED AGES ON COMMITTAL.														SENTENCES.							
	Juveniles.*		18 years and under 20.		20 Years and under 25.		25 Years and under 30.		30 Years and under 40.		40 Years and upwards.		Total.		12 Months and under.		18 Months and above 12.		Above 18 Months.		Total.	
	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.
Could not read,	3	...	3	...	9	1	5	1	6	4	5	1	31	7	22	6	9	1	...	...	31	7
Could read a little,	13	5	13	8	35	15	15	6	22	7	7	7	105	48	79	33	24	15	2	...	105	48
Could read well,	9	20	26	34	45	73	41	54	56	73	39	43	216	297	159	221	52	69	5	7	216	297
Total,	25	25	42	42	89	89	61	61	84	84	51	51	352	352	260	260	85	85	7	7	352	352
Could not write,	4	...	4	...	16	1	6	1	10	2	8	1	48	5	36	4	12	1	...	...	48	5
Could sign name merely,	1	1	1	...	2	2	3	...	5	2	3	4	15	9	11	5	3	4	1	...	15	9
Could write a little,	17	10	24	11	46	32	28	17	44	23	20	14	179	107	136	86	41	20	2	1	179	107
Could write well,	3	14	13	31	25	54	24	43	25	57	20	32	110	231	77	165	29	60	4	6	110	231
Total,	25	25	42	42	89	89	61	61	84	84	51	51	352	352	260	260	85	85	7	7	352	352
Could not cipher,	15	6	23	8	56	29	32	10	48	25	29	17	203	95	150	78	49	17	4	...	203	95
Could cipher a little,	10	14	14	21	23	36	15	24	17	18	15	17	94	130	72	93	20	33	2	4	94	130
Could cipher well,†	...	5	5	13	10	24	14	27	19	41	7	17	55	127	38	89	16	35	1	3	55	127
Total,	25	25	42	42	89	89	61	61	84	84	51	51	352	352	260	260	85	85	7	7	352	352

FEMALE DEPARTMENT.—On Admission (A.) and at Departure (D.)

	RECORDED AGES ON COMMITTAL.														SENTENCES.							
	Juveniles.*		16 Years and under 20.		20 Years and under 25.		25 Years and under 30.		30 Years and under 40.		40 Years and upwards.		Total.		12 Months and under.		18 Months and above 12.		Above 18 Months.		Total.	
	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.	A.	D.
Could not read,	...	...	2	...	7	1	9	1	6	2	7	4	31	8	19	5	6	2	6	1	31	8
Could read a little,	1	1	11	7	17	13	19	19	17	11	10	10	75	61	40	38	12	8	23	15	75	61
Could read well,	1	1	6	12	19	29	13	21	20	30	23	26	82	119	40	56	15	23	27	40	82	119
Total,	2	2	19	19	43	43	41	41	43	43	40	40	188	188	99	99	33	33	56	56	188	188
Could not write,	1	...	7	...	12	1	20	1	21	7	21	8	82	17	51	12	14	3	17	2	82	17
Could sign name merely,	...	...	...	2	1	2	4	3	1	3	2	5	8	15	4	8	1	2	3	5	8	15
Could write a little,	1	1	11	7	27	16	16	26	20	17	17	10	92	77	43	44	15	13	34	20	92	77
Could write well,	...	1	1	10	3	24	1	11	1	16	...	17	6	79	1	35	3	15	2	29	6	79
Total,	2	2	19	19	43	43	41	41	43	43	40	40	188	188	99	99	33	33	56	56	188	188
Could not cipher,	2	2	15	9	40	26	40	33	42	32	39	37	178	139	95	76	31	19	52	44	178	139
Could cipher a little,	...	...	4	7	3	16	1	7	1	10	1	2	10	42	4	21	2	12	4	9	10	42
Could cipher well,†	...	...	...	3	...	1	...	1	...	1	...	1	...	7	...	2	...	2	...	3	...	7
Total,	2	2	19	19	43	43	41	41	43	43	40	40	188	188	99	99	33	33	56	56	188	188

* Males under 18, and Females under 16 years.—(Rule 69.)

† In simple proportion, or the higher rules of arithmetic.

Of these—

Males.	Females.	
7	8	Did not learn to read.
24	23	Learned to read.
321	157	Improved in reading.
352	188	
5	17	Did not learn to write.
9	15	Learned to sign name merely.
49	58	Learned to write.
289	98	Improved in writing.
352	188	
95	139	Did not learn to cipher.
108	39	Learned to cipher.
149	10	Improved in ciphering.
352	188	

No. XV.

Report by J. B. Thomson, Resident Surgeon to the General Prison at Perth, for the year ending 31st December 1864.

General Prison, Perth, 10th January 1865.

Gentlemen,—I have the honour of submitting to you my Annual Report of the general health, sickness and deaths in this Prison during the year 1864, and for the sake of statistical arrangement, I shall follow the order observed in former Reports, and offer my information under the following heads, viz. :—

I. Of the General Health, Sickness, and Deaths of Prisoners.
II. Of the Mental Condition of Prisoners not in the Lunatic Department.
III. Of the Department for Criminal Lunatics.

General Health.

I. The general health of the prisoners has been very good throughout the year.

Kinds and Causes of Illness.

The kinds of illness have as usual been of a chronic character, and chiefly the result of dissipation.

Epidemic Diseases.

Epidemic Diseases, although very frequent and fatal in the locality, have scarcely affected our population. The only cases of this class deserve little notice, being confined to slight attacks of Influenza, Diarrhœa, and Dysentery, and two cases of Gastric Fever of the mildest type. The singular exemption from Epidemics experienced in this Prison, is one of the best proofs that our hygienic and sanitary arrangements are in a satisfactory state.

Table of the Sick.

The cases of sickness put upon the Register during 1864, are set forth in the following Table :—

	Sentenced to Imprisonment.		Convicts.		Total.
	M.	F.	M.	F.	
On Register at commencement of 1864,	...	2	...	9	11
Put on during the year, . . .	17	20	16	21	74
Total during the year, . .	17	22	16	30	85
Of whom removed, ...	16	19	14	23	72
Leaving at 31st December 1864, .	1	3	2	7	13

The sick may be arranged as—

Slightly ill, . .	37	Diseases contracted before admission,	49
Seriously ill, . . .	37	Do. after do.,	25
	74		74

Child-bed Cases.

The cases of childbed and old age, placed on the Register of Sickness, amount to 17, and these being deducted, leave 57 cases of actual sickness in the course of the year put upon the Register.

The number of childbed cases delivered has been—

Imprisonment prisoners, . . .	11
Convicts, ...	2
Delivered in all,	13

Among these were two unnatural presentations, and one child was stillborn. All the mothers made good recoveries. The number of childbed cases is the largest reported in any year in this Prison; and there are besides in the family way—

Imprisonment prisoners, . . .	6
Convicts, ...	1
Undelivered in all,	7

Admission of Nursing Mothers.

I may also mention here, that there have been admitted during the year eleven nursing mothers—

Imprisonment prisoners, . . .	8
Convicts, ...	3
Nursing mothers in all,	11

Deaths in 1864.

The deaths have been as under :—

	Sentenced to Imprisonment.		Insane.		Convicts.		Total.
	M.	F.	M.	F.	M.	F.	
Deaths in 1864,	5	1	2	2	1	4	15

The deaths are above the average, but no case can be said to be caused by imprisonment. Four insane died, and 2 Epileptics; all the six having disease more or less of the brain. Four died of Phthisis, 1 of Scrofula, 1 of Dysentery from a worn-out system, 1 of gradual decay from dissipation, 1 from old age, and 1 from Syncope. This last was a puerperal patient, who died suddenly in the first stage of labour; being dead before I reached her cell, a post mortem inspection, by order of the Procurator-Fiscal, was made, and the cause of death reported was Syncope. Causes of Death.

One female patient in hospital, suffering from heart disease, received a free pardon from Her Majesty, and was liberated; but with this exception there were no liberations this year on medical grounds. Liberation on Medical Grounds.

I am obliged for the following Table to the Matron, who furnishes it at my request :—

TABLE showing the Number of Female Convicts received in each year from October 1855 to 31st December 1864, their term of sentence, whether before had suffered imprisonment, the number liberated or who have died, and of those remaining in custody at 31st December 1864; their previous imprisonments, the number respectively in Main Prison, or under treatment in the Hospitals for Sickness or Mental Diseases.

Year of Admission.	Number admitted and sentenced to Transportation or Penal Servitude. Number of Years of Sentence. 3	4	5	6	7	8	10	12	14	15	21	Life.	Total.	Previous Imprisonments. First time in Prison, or former career unknown.	Had suffered Imprisonment once or oftener in Local Prison from whence received.	Had suffered Imprisonment in General Prison once or oftener.	Had before undergone Sentence to Transportation or Penal Servitude in General Prison or elsewhere, or both.	Number Liberated, Removed, or who have Died. Expiration of Sentence.	Remission.	Commutation.	Removed to Prison of Ayr.	Liberated on Medical Grounds	Died.	Total.	Of those remaining in Custody 31st December 1864. Previous Convictions. First time in Prison, or former career unknown.	Had suffered Imprisonment once or oftener in Local Prison from whence received.	Had suffered Imprisonment in General Prison once or oftener.	Had before undergone Sentence to Transportation or Penal Servitude in General Prison or elsewhere, or both.	Distribution. In Main Prison.	In Sick Hospital.	In Imbecile Hospital.	Epileptic do.	Lunatic do.	Total.
1855	..	98	8	10	..	..	..	..	8	9	1	3	137	20	108	1	8	103	19	..	..	5	8	135	1	1	..	..	2	..	..	..	..	2
1856	..	51	6	2	..	1	1	..	1	6	2	2	72	6	56	..	10	49	10	1	¶1	..	9	70	..	1	..	1	1	..	..	..	1	2
1857	..	2	..	..	..	..	..	..	..	2	..	..	4	..	3	..	1	2	1	..	..	..	1	4	..	..	..	..	..	..	..	..	..	..
1858	11	34	6	9	6	2	4	..	..	..	3	..	75	5	36	15	19	..	66	..	..	..	8	69	3	..	2	1	6	..	..	..	..	6
1859	24	93	13	15	7	6	6	1	..	3	1	..	169	17	84	43	25	22	119	..	..	1	10	152	2	2	1	12	15	1	..	..	1	17
1860	9	34	5	2	1	11	4	..	..	..	..	2	68	9	17	22	20	..	48	..	..	..	2	50	1	6	..	11	18	..	..	..	..	18
1861	8	37	..	13	..	13	2	..	..	*2	2	3	75	10	24	16	25	..	27	..	§7	..	5	39	8	9	2	17	34	1	..	..	1	36
1862	10	26	5	13	..	6	2	..	..	†1	..	1	64	9	10	26	19	..	3	..	§3	..	4	10	7	8	20	19	51	2	..	..	1	54
1863	10	16	3	2	..	5	..	..	..	1	..	1	38	3	4	17	14	‡4	..	..	§1	..	..	5	3	4	16	10	32	..	1	..	..	33
1864	8	§18	6	13	3	‖4	1	..	..	1	..	¶1	55	5	7	17	26	..	..	..	..	..	1	1	5	7	17	25	52	2	..	..	..	54
	75	409	52	79	17	48	20	1	9	25	9	13	757	84	349	157	167	180	293	1	12	6	43	535	30	38	58	96	211	6	1	..	4	222

* One sentenced to 15 years' Transportation, who had been liberated by remission, had license revoked in 1861.
† Do. do. do. in 1862.
‡ Four sentenced to 4 years' Penal Servitude, do. do. in 1863, and were liberated by expiry of sentence.
§ Do. returned to General Prison in 1864, were removed to Prison of Ayr in 1863.
‖ Two sentenced to 8 do. do. do. in 1863.
¶ One do. Life, do. do. do. in 1863.

Of the 757 female Convicts admitted since October 1855, there have died in all 43. Number of Deaths of Female Convicts.

The following shows the length of time in Prison, and the ages of those who died :—

Time in Prison.	Died.
Under 6 months,	9
6 months, and under 1 year,	6
1 year and under 2 years,	9
2 „ „ 3 „	12
3 „ „ 4 „	3
4 „ „ 5 „	3
5 „ and upwards,	1
	43

Time in Prison of those who died.

Table of their ages :—

Under 20 years,	3
20 years and under 30,	19
30 „ 40,	12
40 „ 50,	7
50 „ 60,	2

Table of Ages of Death.

The fatal diseases were—

Phthisis,	10	Paralysis,	1
Worn-out,	7	Pericarditis,	1
Brain Disease,	4	Aneurism,	1
Scrofula,	4	Pneumonia,	1
Hæmoptysis,	2	Menorrhagia,	1
Heart Disease,	2	Dropsy,	1
Uterine Disease,	3	Syphilis,	1
Gradual Decay from Insanity,	2	Gastric Fever,	1

Fatal Diseases.

We have had no addition to the number of the insane from the female Convict class. The number who have become insane amounts in all to 5; 4 of whom are confined in the Lunatic department, and 1 died there in 1864. Four of these are re-convicted Convicts. Two are known to have been insane previous to last conviction.

An indication of the physical condition maintained generally, appears from the following

TABLE giving the Weights of all the Female Convicts in custody—exclusive of sick—at last general Weighing, viz., on 28th September 1864 :—

Number Weighed.	Aggregate Weights on Admission.	Aggregate Weights on 28th Sept. /64.	Number Stationary.	Number Gaining.	Amount Gained.	Number Losing.	Amount Lost.	Percentage. Maintaining or Gaining Weight.
	lbs.	lbs.						
206	26,387	27,192	11	127	1260	68	455	66

Weights of Female Convicts on Liberation.

Curiously enough the number weighed, and the percentage maintaining or gaining weight, are the same as in 1863.

The next Table shows the weights of all female Convicts who have been liberated by remission or by expiry of sentence :—

	Numbers.	Stationary.	Gaining.	Losing.	Percentage. Maintaining or Gaining weight.
Liberated up to 31st December 1860, excluding Sick, . .	180	14	93	73	
Do. do. 1861, do. . .	90	4	51	35	
Do. do. 1862, do. . .	66	2	39	25	
Do. do. 1863, do. . .	82	4	41	37	
Do. do. 1864, do. . .	49	1	25	23	
	467	25	249	193	58

In the two preceding Tables, there comes out the interesting fact that the weights at liberation are materially less than those maintained in Prison—the comparison being 58 and 66 per cent.; and in my last Report I offered two reasons for this, viz.: That on admission, Convicts are in a reduced state, and the dietary sets them up, so that their weights increase during the probationary period, and subside in subsequent years; and for some time previous to liberation there supervenes a degree of anxiety and excitement, which must tell injuriously upon their physical condition. These views receive confirmation by the following

TABLE of all Female Convicts who have been liberated, excluding one sick, during 1864, showing their weights on admission at the two last general weighings, previous to liberation, and on liberation :—

Year of Admission.	Number Weighed.	Weights on Admission.	Weights at 2d last General Weighing.	Stationary.	Number Gaining.	Amount Gained.	Number Losing.	Amount Lost.	Weights at last General Weighing previous to liberation.	Stationary.	Number Gaining.	Amount Gained.	Number Losing.	Amount Lost.	Weights at Liberation.	Stationary.	Number Gaining.	Amount Gained.	Number Losing	Amount Lost.	Percentage. Maintaining or Gaining Weight.		
		lbs.	lbs.			lbs.															2d Last.	Last.	Liberation.
1856	2	268	264	...	1	6	1	10	253	1	...	...	1	15	251	...	...	...	2	17			
1857	1	129	137	...	1	8	...	...	134	...	1	5	...	...	133	...	1	4	...	...			
1858	5	662	660	...	3	25	2	27	661	...	3	27	2	28	644	...	3	15	2	33			
1859	4	518	554	...	4	36	...	...	547	...	3	37	1	8	520	...	1	12	3	10			
1860	9	1182	1218	...	6	59	3	23	1231	...	6	71	3	22	1193	...	6	49	3	38			
1861	25	3770	3327	2	18	180	5	23	3304	1	17	168	7	34	3183	1	14	94	10	81			
1862	3	441	428	...	...	...	3	13	406	...	...	...	3	35	382	...	...	...	3	59			
	49	6370	6588	2	33	314	14	96	6536	2	30	308	17	142	6306	1	25	174	23	238	71	65	53

Prisoners, especially the Convict class, say that the last months of confinement are the most irksome. They very often become much excited as the period of their liberation approaches. This excitement leads to sleeplessness, loss of appetite, and a feverish disturbance of the system, which doubtless explains the reduced weights at liberation, compared with those generally maintained in Prison. And hence we find in this last Table that, of the 49 liberated in 1864, the percentage maintaining or gaining weight was—

At the general weighing previous to the last, ... 71 per cent.
At last, ... 65 ,,
On liberation, ... 53 ,,

A further investigation into the weights of female Convicts in custody 31st December 1864, exclusive of sick, and of those admitted since last general weighing on 28th September 1864, shows—

Admitted in	No. Weighed.		
1859.	17	Maintained and gained weight	62 per cent.
1860.	18	do. do.	66 ,,
1861.	36	do. do.	64 ,,
1862.	54	do. do.	69 ,,
1863.	33	do. do.	70 ,,
1864.	54	do. do.	88 ,,

The greatest increase takes place during the first and second year, but the other years give a satisfactory percentage, notwithstanding that there are no juveniles among them, and a few are failing from advancing years.

The Male Convicts under the experimental Dietary adopted in August 1863, continue to have high rates of increase in weight, and enjoy very good health. Scale of Diet for Male Convicts.

	Number weighed.	Stationary.	Gaining.	Losing.	Percentage. Maintaining or gaining weight.
Transferred to England in 1863,	49	2	36	11	
Do. in 1864, exclusive of Sick,	96	3	80	13	
	145	5	116	24	83

Extensive weighings of other classes of Prisoners, viz., the Imprisonment Males and Females; and Convicts in the first year of probation afford also favourable percentages of weights, with the details of which this Report need not be burdened. Imprisonment Prisoners.

Upon the whole, taking into consideration the class of Prisoners in the General Prison, and that a large proportion have constitutions vitiated by hereditary and habitual dissipation—many having undergone long and frequent imprisonments—the results are most favourable in regard to the general health. It was a problem when transportation was set aside, how far long sentences to penal servitude could be carried out without serious injury to the mental and physical condition of the Convict class; but the problem seems satisfactorily solved, and the success of the experiment is certainly one of the best triumphs of sanitary science.

Diseases for which Prisoners were treated during the decennial period 1855 to 1864 inclusive. Total Diseases of 1855-1864.

DISEASES.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.	1864.	Total.
I. *Zymotic Class*—											
Scarlatina,	...	...	...	1	...	...	...	2	...	...	3
Diarrhœa,	20	4	40	...	18	6	6	8	5	6	103
Influenza,	13	11	11	5	...	3	...	1	4	2	50
Scurvy,	2	...	3	2	1	...	...	...	...	...	8
Ague,	...	2	1	1	...	...	...	...	...	...	4
Erysipelas,	1	1	...	2	1	2	...	...	...	1	8
Syphilis,	5	6	11	7	4	10	3	4	...	2	52
Condylomata,	1	...	...	1	...	...	...	1	...	...	3
Puerperal Fever,	1	...	...	...	...	...	...	...	...	...	1
Chicken Pox,	1	...	...	...	1	1	...	...	1	...	4
Measles,	...	...	...	...	...	...	1	...	...	...	1
Fever,	...	...	...	...	...	...	1	1	5	2	9
II. *Constitutional*—											
Gout,	...	...	1	...	...	...	...	...	...	...	1
Fistula,	...	...	...	1	1	2	...	1	...	1	6
III. *Tubercular*—											
Scrofula,	5	2	5	4	7	6	7	3	5	3	47
Phthisis,	6	8	7	4	3	5	5	5	3	6	52
IV. *Of Nervous System*—											
Apoplexy,	...	1	...	...	...	...	...	1	...	1	3
Paralysis,	...	1	1	3	1	2	3	3	2	2	18
Brain Disease,	...	3	...	...	1	3	2	...	3	3	15
Hysteria,	...	1	...	...	1	...	...	2	2	...	6
*Epilepsy,	...	...	...	...	...	...	...	...	...	...	...
†Insanity,	...	...	...	...	...	...	...	...	...	...	...
Ophthalmia,	1	...	...	...	...	2	2	1	2	...	8
V. *Of Organs of Circulation*—											
Heart,	...	2	1	2	2	1	...	1	3	1	13
Aneurism,	...	1	...	...	1	...	...	...	...	...	2
Syncope,	...	...	1	1	...	...	...	...	...	1	3
Pericarditis,	...	...	...	...	2	...	...	...	...	...	2
VI. *Of Respiration*—											
Bronchitis,	2	2	...	8	4	4	3	...	...	1	24
Pleuritis,	...	1	4	...	3	4	...	...	...	1	13
Pneumonia,	1	1	...	2	...	2	4	2	3	...	15
Asthma,	1	3	4	3	3	2	2	...	1	...	19
Hæmoptysis,	...	1	1	2	4	3	3	...	3	...	17
Hydrothorax,	...	1	1	1	...	2	...	...	...	...	5
VII. *Of Digestion*—											
Epistaxis,	3	...	1	...	1	...	1	...	...	...	6
Quinsey,	...	...	...	3	1	2	...	...	...	...	6
Dyspepsia,	2	2	...	6	4	3	6	3	5	3	34
Enteritis,	...	...	...	1	1	1	...	1	...	1	5
Ascites,	...	...	1	1	...	1	1	...	2	...	6
Ulcer of Intestines,	...	...	1	1	...	...	...	1	2	1	6
Hernia,	...	...	...	1	1	...	1	...	1	...	4
Hæmatemesis,	...	3	4	2	2	2	...	...	1	...	14
Hæmorrhoids,	...	1	...	...	2	...	...	...	...	1	4
Constipation,	...	1	3	1	...	...	1	...	1	...	7
Hepatitis,	...	...	...	...	...	3	1	...	...	...	4
Cancer of Stomach,	...	...	...	...	...	1	...	...	1	...	2
Carry forward,	65	59	102	66	65	73	53	36	55	39	613

* See Table No. XVIII. as to Epileptics. † See Table No. XVII. as to Lunatics.

(No. XV. *Continued.*)

DISEASES.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.	1864.	Total.
Brought forward,	65	59	102	66	65	73	53	36	55	39	613
VIII. *Of Urinary and Generative Organs*—											
Stricture, &c., of Urethra,	1	...	...	3	1	2	...	...	3	...	10
Gonorrhœa,	1	...	1	2	3	3	...	1	3	1	15
Testitis,	1	...	...	1	3	...	1	2	...	...	8
Hydrocele,	...	...	...	1	1	...	...	...	2	1	5
Masturbatio,	...	...	...	...	2	1	...	...	1	..	4
Cystitis,	1	...	...	...	...	...	...	...	...	...	1
Bright's Disease,	...	...	...	...	...	...	...	...	...	2	2
IX. *Of Uterine Organs*—											
Cancer Uteri,	...	2	...	1	1	...	...	...	1	...	5
Uteritis,	...	1	...	1	1	...	2	3	1	...	9
Menorrhagia,	...	3	...	1	3	6	1	2	2	1	19
Polypus,	...	...	1	1	...	...	1	...	..	...	3
X. *Of Locomotive Organs*—											
Rheumatism,	3	1	4	5	3	4	...	3	3	3	29
Sciatica,	...	...	1	1	2	1	...	...	...	...	5
XI. *Of Skin*—											
Ulcer,	10	2	2	8	6	5	...	2	2	...	37
Abscess,	2	2	...	3	4	6	5	...	3	3	28
Itch,	5	...	3	2	4	2	4	4	6	4	34
Ringworm, &c.,	1	...	2	1	4	...	...	...	...	...	8
Favus,	1	2	...	1	2	...	...	1	...	1	8
Pediculi,	...	...	...	1	2	...	...	...	..	...	3
Anomalous Eruption,	...	..	1	...	1	...	1	2	...	1	6
Eczema,	...	...	...	...	...	2	1	2	...	...	5
Lepra,	...	...	...	...	...	...	1	1	2	...	4
XII. *From Accident and Negligence*,—											
Burns and Bruises,	...	2	...	3	2	3	1	1	2	...	14
Fracture,	...	2	...	1	1	2	...	2	1	...	9
Sprains,	...	...	...	2	...	2	...	2	...	...	6
Wounds,	...	2	1	...	1	2	2	2	2	1	13
	91	78	118	105	112	114	73	66	89	57	903

The amount of sickness in 1864 is the lowest during the last ten years.

Deaths of Prisoners since 1842.

Table showing the Prison population, the daily average population, the number and percentage of deat during twenty-three years, viz., since 1842, when the General Prison was opened, to 1864 inclusive :—

Years.	Total Prison Population.	Daily average Population.	Annual Deaths.	Percentage on daily average Population per annum.	Deaths per 1000.
1842	404	404	5	...	...
1843	627	278	6	...	...
1844	563	217	3	...	...
1845	541	233	3	...	...
1846	600	322	7	...	...
1847	672	332	1	...	...
1848	682	301	5	...	...
1849	737	363	2	..	...
1850	810	385	3	...	...
1851	784	306	4	...	...
1852	796	434	8	...	...
1853	876	459	4	...	...
1854	1045	580	9	...	...
1855	1134	498	10	...	...
1856	998	583	11	...	...
1857	961	593	12	...	...
1858	982	561	10	...	...
1859	1085	632	12	...	...
1860	1074	675	16	...	...
1861	1065	637	8	...	...
1862	1105	688	5	...	...
1863	1241*	714	8	...	...
1864	1227	692	15	...	...
	20,009	10,887	167	1·53	15

With a total Prison population during 23 years of 20,009, and a daily average population 10,887, we have had in all 167 deaths, being at the average rate per annum of 1.53 per cent., or about 15 p 1000.

* This includes 8 who were conveyed to Ayr, and returned to the General Prison within the year.

Liberated on medical grounds—

Medical Liberations.

1842	1843	1844	1845	1846	1847	1848	1849	1850	1851	1852	1853	1854	1855	1856	1857	1858	1859	1860	1861	1862	1863	1864	Total.
12	18	7	0	1	3	1	4	4	3	7	4	3	0	0	1	4	1	2	1	0	0	1	77

The liberations during 23 years amount to 77. One-third of these being calculated as probable deaths, would raise our death-rate a little; thus, 167 + 25 = 192, would amount to 1.76 per cent. per annum.

Causes of Deaths, 1842-64.

FATAL DISEASES OR CAUSES OF DEATH.	1842.	1843.	1844.	1845.	1846.	1847.	1848.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.	1864.	Totals.
Zymotic Class—																								
Diarrhœa and Dysentery,	...	...	...	...	...	...	1	...	...	...	...	...	3	...	...	...	...	...	2	...	...	...	1	7
Influenza,	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Scurvy,	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Cholera,	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Fever,	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2
Tubercular—																								
Scrofula,	...	...	...	1	2	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1	...	...	1	7
Phthisis,	4	2	2	...	4	1	2	1	...	...	1	...	3	5	4	1	4	4	3	1	4	...	4	50
Marasmus,	1	...	...	...	1	...	...	1	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	5
Of Nervous System—																								
Paralysis,	...	...	...	...	...	..	...	...	...	...	...	...	1	1	...	...	...	...	1	1	...	1	1	6
Brain disease,	...	...	...	...	...	...	...	...	...	...	2	...	...	...	2	...	...	...	1	1	...	...	2	8
Decay from Insanity,	...	...	...	...	...	...	...	...	2	1	...	...	...	...	...	3	...	...	...	1	...	1	1	9
Epilepsy,	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	3
Apoplexy,	...	...	...	...	...	..	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	1
Delirium Tremens,	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Of Organs of Circulation—																								
Heart,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	1	1	1	...	1	...	7
Pericarditis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Aneurism,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Syncope,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Of Respiration—																								
Bronchitis,	...	...	..	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	1	1	...	...	...	4
Pneumonia,	...	1	...	...	...	...	...	...	...	1	2	...	...	...	...	...	1	...	...	...	...	2	...	7
Asthma,	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	2
Hæmoptysis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	2
Hydrothorax,	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	3
Of Digestion—																								
Epistaxis,	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
Enteritis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Peritonitis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Hæmatemesis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Constipation,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Cancer of Stomach,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1
Ascites,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	2
Of Urinary and Generative Organs—																								
Cancer Uteri,	..	...	...	...	...	...	...	..	...	...	...	...	...	...	...	1	...	1	...	...	1	...	1	4
Bright's disease,	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Menorrhagia,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	2
Of Organs of Locomotion—																								
Rheumatism,	..	...	...	1	..	...	..	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	1
Suicides,	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	3
Unknown,	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Old Age,	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	..	...	...	1	2
Worn Out,	...	1	..	...	...	...	..	...	1	...	1	...	...	3	...	4	...	2	1	...	1	...	1	15
	5	6	3	3	7	1	5	2	3	4	8	4	9	10	11	12	10	12	16	8	5	8	15	167

Note.—With the above Table before us, it seems legitimate to compare the Death-rate of our Prison with that of the City population a few hundred yards distant. The Death-rate of the City of Perth in 1864 was the highest recorded in recent times—higher than the great cholera years of 1849 and 1854—1 out of every 29 of the City population having died; and the deaths very materially exceeding the births. The chief causes of death in the last year and generally are Zymotic and Epidemic diseases—a class scarcely known within our Prison walls; and our only fatal case of Dysentery last year was not from atmospheric influence, but a worn-out system. The contrast uniformly presented in favour of our Prison, compared with the City population, is a strong proof that our general drainage and sanitation are good, and that these, with enforced temperance, and a well adjusted dietary, are sufficient to prevent our Prisoners from falling under the epidemic influences so prevalent and fatal in the locality.

II. Of the mental condition of Prisoners not in the Lunatic Department.

Mental Condition.

Table No. XVIII. gives the particulars of all placed by the authority of the Surgeon in association, as unfit for separation, with the reasons for association, in each case, viz.:—

Number associated

Juveniles,	3
Imbecile or Weak-minded,	14
Suicidal,	4
Epileptic,	15
Total,	36

Under special observation, separate.

The class of weak-minded and suicidal not associated, but under special observation, having been known for some mental peculiarity, were, at 31st December 1864, as follows :—

Weak-minded,	22
Weak-minded and Suicidal,	14
Total,	36

The following Table gives the numbers associated, on mental grounds, during the decennial period 1855 to 1864 inclusive :—

	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.	1864.	Totals.
Mental Condition—											
Juvenile, Imbecile, or Weak-minded,.....	22	22	34	14	21	20	16	26	13	17	205
Do. and Suicidal,.....	4	3	2	2	4	7	9	6	2	4	43
Epileptic,.....	6	4	7	4	11	2	7	13	6	15	75
	32	29	43	20	36	29	32	45	21	36	323

The foregoing figures show that the Prisoners under treatment on account of their mental condition do not increase proportionally to our General Prison population. This is to be explained in a great measure by our greater knowledge of those we at one time regarded as unfit for separation. Formerly, in ignorance of the true character of the Prisoners, every precaution was adopted, but the frequent return of the same Prisoners, and our larger experience of them, enable us to submit those at one time associated to the discipline of separation.

The opinion, formerly expressed, is still held by the Resident Surgeon, that the mental diseases of Prisoners can be rarely traced to the effects of even long imprisonment; but rather to the degraded nature and deteriorated constitutions, which are the heritage of the criminal classes.

Health and Death of Criminal Lunatics.

III. Of the department for Criminal Lunatics.

The general health of this department has been good throughout the year.

Four deaths have occurred there, 2 males and 2 females, and the causes of death were, in all cases, to be traced to diseases of the brain and nervous system, which especially belong to the insane class, who must always add a considerable item to our death-rate.

414/522. C. N. or N., aged 27, on admission was weak-minded; and doubts of his sanity arose even before his trial. He was reported as very dissipated.

322/5. E. L., aged 35, on committal had been nearly 18 years confined in the lunatic department, died of Paralysis, a disease common to the insane.

Fatal Cases.

32/23. M. S., aged 24, a male convict, had been here formerly weak-minded, and was on admission, 24th January 1864, placed under special observation; he gradually became worse, entertained delusions, and on the 10th October last was certified Insane, having symptoms of brain disease from which he died.

392/20. J. M'C. or A., aged 37, a female convict, who had become insane in the Main Prison, and seemed recovering; had a recurrence of mania, from the violent nature of which she became exhausted, and died. She had led a very dissipated life. I give these notes of the cases simply to show that other causes than confinement led to the fatal results.

In Table No. XVII. will be found the particulars of all confined in this department during 1864.

Admissions and removals.

The total admissions were 8 in all, viz., 7 males and 1 female; and the removals 4, viz., 2 males and 2 females, who died. Three of the admissions were transferred from the Main Prison, and 5 were brought from other Prisons.

Some of the cases admitted, being of a class new to this department, may be noticed here :—

Male Convicts.

38/23. C. M'E., aged 30, and 32/23. M. S., aged 24, are both male convicts; and the specialty in such cases is, that while lunatics they are not transferable to any English Prison or Asylum. One of these is dead, but the other must remain here, at least until the expiration of his sentence. Male convicts are likely therefore to increase our numbers in the lunatic department.

Short sentenced Prisoners here.

Another case coming under the same new category, is that of 471/23. J. M'G. or G., aged 19, admitted from Greenlaw Prison on 9th December last, charged with fire-raising, tried before a Sheriff-court and sentenced to 6 months' imprisonment. After receiving a report regarding this prisoner, bearing upon the question as to his being a more fit subject for the lunatic department of the General Prison than for an ordinary lunatic asylum; also certificates of insanity being given, the Prison Managers authorized this Prisoner to be transmitted here and placed in the Lunatic Department. This is the first case so admitted under the Act 25 and 26 Vict. chap. 54, sect. 22, and according to sect. 19 of the same Act, this prisoner on Medical Certificates being granted within 60 days of the expiration of his sentence, that he is insane, and that his insanity is of a kind which renders it advisable that he should be detained, it shall be lawful, under the authority of Her Majesty's Secretary of State, to detain him accordingly in the General Prison. Cases of this kind may make another increment to this department.

461/23. A. W. or M'K., aged 24, admitted 26th November last from the Prison of Inveraray, is another case having some peculiar features, and I beg also to draw your attention to it. This woman was charged with assault, tried before the Sheriff-Court of Inveraray, and found to have been insane, and ordered to be kept in custody until Her Majesty's pleasure be known. The only Medical information accompanying this Prisoner on admission, was that "she is subject to insanity monthly, when she gets nervous and excited." So far as I know from the patient's antecedents or her conduct here, she may not be more fit for detention here, than to be placed in any well-conducted Lunatic Asylum; and I therefore take this opportunity of stating that it is most desirable that the antecedents of all Criminal Lunatics, and all the circumstances of each case, should be furnished for the guidance and direction of the Medical Officer; whereas it is not uncommon for Criminal Lunatics to be sent here during Her Majesty's pleasure, without any information by which to conclude (should they afterwards become sane) whether or not they are safe and fit persons to be set at large. There are several Criminal Lunatics, male and female, who are quite sane, and have been so since their admission under the

quiet of Asylum treatment, but whose history proves them unfit subjects for liberation; and there are others whose individual cases call for careful consideration whether they might not be recommended to be at large. The serious medical responsibilities which cases of this kind involve, show how important must be all the history of the character and offences of our Criminal Lunatics.

123/23. J. M. or M. or M., of whom the particulars are given in Table No. XVII. has been, so far as can be discovered, sane since admission, and has been so certified by the Resident Surgeon to the Prison Managers. One of the Admissions reported sane.

The total Criminal Lunatics, as reported at this date, is above the average.

There is only one patient under restraint of one hand; but in the course of the year it has been found necessary, with one or two powerful men who have been committed for homicidal acts, to have recourse to restraint. Indeed, the absolute non-restraint theory cannot be safely carried out here, and the morbid feeling on this subject has never been admitted. On the contrary, certain restraints have not only been found safe precautions against attacks upon others, but seem to beget in those restrained some measure of self-control. Restraints.

I offer a Table of the number of admissions to the Lunatic Department during the last ten years:—

	1855	1856	1857	1858	1859	1860	1861	1862	1863	1864	Total.
From the General Prison, ...	0	2	4	4	6	6	4	2	3	3	34
From other Prisons, ...	6	3	5	6	8	2	1	3	1	5	40
	6	5	9	10	14	8	5	5	4	8	74

We are about to occupy the New Buildings appropriated for the Criminal Lunatics. These appear to be well adapted for the benefit of this class of Prisoners, who, having often the prospect of permanent detention, are entitled to, and will now receive, all the amenities which are applicable to the comfort and improvement of the insane. New Lunatic Department.

I have the honour to be, Gentlemen, your most obedient Servant,

J. B. Thomson, *Resident Surgeon.*

To the Managers of the General Prison
for Scotland, &c. &c.

No. XVI.—Report by the Governor and Resident Surgeon of the General Prison at Perth, of the deaths of Prisoners in the General Prison, from 1st January to 31st December 1864, inclusive.

No	Current Number. M.	Current Number. F.	Name.	Age at Commitment to Prison.	Where Tried.	By whom Tried.	Date of Sentence.	Sentence.	Date of Admission into the General Prison.	Date of Death.	Period in Prison. Months.	Period in Prison. Days.	Where Interred.	Disease.	Whether Contracted before or after Admission.	Probable Cause of Disease.	Remarks.
1	414/22		C. N. or N.	27	Perth .	Circuit-Court.	Sept. 18, 1863.	15 Months.	Oct. 7, 1863.	Feb. 8, 1864.	4	2	Wellshill Cemetery.	Erysipelas.	After . .	Dissipation.	Died insane. On admission, weak-minded.
2	291/22		J. T.	77	Cupar.	Sheriff-Court.	May 28, 1863.	12 Months.	June 1, 1863.	... 12, ...	8	12	Precincts of the Prison.	Old Age.	Before .		On admission, worn-out with old age.
3		220/20	M. C. or G.	24	Glasgow.	Circuit-Court	April 25, 1861.	4 Years.	... 15, 1861.	Mar. 13, ...	32	28	Do.	Scrofula.	Do. . .	Hereditary.	An intractable case of scrofula.
4		272/21	M. B.	24	Ayr .	Do.	April 15, 1862.	6 Years.	Aug. 21, 1862.	April 4, ...	19	15	Do.	Gradual decay.	Do. . .	Dissipation.	System worn-out by vicious habits.
5	160/22		J. H.	50	Edinburgh.	Sheriff-Court.	Mar. 30, 1863.	2 Years.	April 11, 1863.	... 15, ...	12	5	Do.	Epilepsy.	Do. . .	Brain Disease.	Here formerly insane.
6	566/22		J. M.	47	Stirling.	Do.	Dec. 25, 1863.	18 Months.	Dec. 31, 1863.	May 29, ...	4	30	Do.	Do.	Do. . .	Do. . .	Had brain disease.
7	133/23		G. M'K.	22	Glasgow.	Circuit-Court.	April 21, 1864.	15 Months.	May 2, 1864.	June 9, ...	1	8	Do.	Phthisis.	Do. . .	Hereditary.	On admission exhausted.
8	424/22		J. G. T.	30	Do.	Do.	Sept. 29, 1863.	18 Months.	Oct. 12, 1863.	... 23, ...	8	12	Do.	Do.	Do. . .	Do. . .	Do. Far gone with tubercular phthisis.
9		94/23	E. L.	20	Edinburgh.	High Court of Justiciary.	Feb. 2, 1864.	8 Years.	Mar. 18, 1864.	Aug. 6, ...	4	20	Do.	Do.	Do. . .	Do. . .	Do. do.
10		268/21	L. M.	32	Aberdeen.	Circuit-Court.	April 24, 1862.	3 Years.	Aug. 21, 1862.	... 2	24	6	Do.	Dysentery.	After . .	Worn-out.	Had been very dissipated.
11	165/23		D. W.	38	Glasgow.	Do.	April 21, 1864.	14 Years.	May 7, 1864.	... 29, ...	3	23	Do.	Gradual decay.	Before .	Do. . .	Much exhausted by dyspeptic phthisis.
12		144/23	M. M. or M'K.	30	Do.	Do.	April 23, 1864.	15 Months.	... 2, ...	Oct. 30, ...	5	29	Do.	.....	.....	.....	Died suddenly from syncope.
13		322/5	E. L.	35	Jedburgh.	Do.	Sept. 18, 1845.	.....	Dec. 29, 1846.	Nov. 28, ...	215	...	Do.	Paralysis . . .	After . .	Brain Disease	Found to be unfit for trial on the ground of insanity, and warrant granted by the Court for detention in custody. Died in Lunatic Department.
14	32/23		M. S.	24	Glasgow.	Do.	Sept. 23, 1863.	8 Years.	Jan. 26, 1864.	Dec. 2, ...	10	7	Do.	Softening of Brain.	Before .	Dissipation.	Here formerly weak-minded. Died insane.
15		392/20	J. M'C. or A.	37	Stirling.	Do.	Sept. 16, 1861.	4 Years.	Nov. 16, 1861.	... 7, ...	36	22	Do.	Decay from Insanity.	After . .	Do. . .	Died insane. Exhausted by a violent fit of mania.

I certify that the dates of death, the diseases, whether before or after admission, probable cause of disease of the Prisoners above-named, and the relative remarks, are correct, the columns having been filled up under my direction.

J. B. Thomson, *Resident Surgeon.*

I certify that the current numbers, names, ages, where tried, by whom tried, dates of sentence, sentences, dates of admission, period in prison, and where interred, are correct; and also that means were used to acquaint the relatives of the above-named Prisoners, in order that they might have an opportunity of removing the bodies for interment, if they wished so to do.

Fred S. Parkyn,
Governor.

General Prison, Perth, 10th January 1865.

No. XVII.—Return by the Resident Surgeon of the General Prison at Perth, applicable to those Prisoners who have been confined in the Department for Criminal Lunatics during the year 1864.

	M.	F.	TOTAL.
Insane in Custody at 31st December 1863, . .	20	12	32
Admitted during 1864, ...	7	1	8
Total during 1864, . .	27	13	40
Liberated and removed in 1864, ...	2	2	4
Remaining in Custody at 31st December 1864, . .	25	11	36

No.	C/n.	Name.	Age on committal to Prison. M.	Age on committal to Prison. F.	Whence brought.	Brought to Lunatic Department.	Afterwards transferred to Lunatic Department.	Date of Admission to Lunatic Department.	Offence of which Accused or Convicted.	By what Court Tried.	Judgment of Court or other Judicial proceeding, with Date.	Whether admitted on Judicial Finding or Medical Certificate of Lunacy.	Form of Insanity.	Removed during the year. Date.	Removed during the year. Method.	REMARKS.
1	316/5	J. J., Jr.	11	...	Royal Lunatic Asylum, Glasgow.	1	...	Dec. 25, 1846	Assault .	Sheriff Court, Lerwick.	Found not to be a fit subject for trial on account of imbecility and dumbness, and sentenced to imprisonment until further orders of the Court, or of the High Court of Justiciary, 5th May 1845.	Judicial Finding.	Idiocy .	.....	.....	*Naturaliter Idiota;* Mischievous, dumb. Offences:—Pushed two children over Lerwick Pier, and assaulted several children, striking them severely; dangerous, suddenly rushes at persons, strikes, and kicks; is filthy.
2	322/5	E. L.	...	35	Do.	1	...	... 29, ...	Murder . .	Circuit Court, Jedburgh.	Found to be insane and not fit for trial, and sentenced to be imprisoned until further orders of the High Court of Justiciary, 18th September 1845.	Do.	Homicidal Mania.	Nov. 28.	Died.	Had hallucinations, and was liable to violent paroxysms of mania; murdered her mother under the delusion that she was a witch.
3	95/6	T. M'K.	37	...	Royal Lunatic Asylum, Dundee.	1	...	May 4, 1847	Murder. .	Circuit Court, Glasgow.	On trial, found to be insane, and not an object of punishment, and sentenced to be detained in Prison all the days of his life, or until sufficient caution be found for his safe keeping in custody during life, 6th May 1839.	Do.	Do.	.....	.....	Had hallucinations; never had lucid intervals; murdered his own sister to save her from imaginary persecutions.
4	111/6	A. R.	30	...	Do.	1	...	... ...	Assault . .	Sheriff Court, Stirling.	Found to be insane and not a fit subject for trial, and sentenced to be detained in Prison, subject to future orders of Court, 26th May 1841.	Do.	Mania.	.....	.....	Has delusions about his being a great personage; has scarcely ever been heard to speak for years.
5	169/6	T. B.	25	...	Dumfries Asylum.	1	...	July 9, ...	Assault with intent to ravish.	Circuit Court of Justiciary, Ayr.	Found to be insane and not a fit subject of trial, and sentenced to be detained in custody until further orders of the High Court of Justiciary, 15th September 1843.	Do.	Do.	.....	.....	Mischievous; suddenly rushes upon persons, strikes and kicks; sometimes low and moody.
6	242/6	M. P.	...	34	Morningside Lunatic Asylum.	1	...	Sept. 23, ...	Wilful fire-raising and malicious mischief.	Circuit Court of Justiciary, Jedburgh.	Found to be unfit for trial from the state of her mind, and to be detained in Prison until further orders of the High Court of Justiciary, 4th April 1842.	Do.	Do.	.....	.....	Quiet and harmless.
7	171/9	J. D.	28	...	Dumbarton Prison.	1	...	June 15, 1850	Assault, with intent to rob	Sheriff Court, Dumbarton.	Found to be insane and not fit for trial, and ordered to be detained in Prison until removed therefrom by competent authority, 7th June 1850.	Do.	Mania .	.....	.....	Harmless; filthy.
8	172/9	W. K.	22	...	Perth County Prison.	1	...	... 18, ...	Murder . .	Circuit Court, Perth.	Found not in a fit state to be put on his trial, and the diet deserted *pro loco et tempore*, and grants warrant to commit him to the Prison of Perth, therein to be detained until further orders of the Court of Justiciary regarding him, 26th Sept. 1850.	Do.	Homicidal Mania	.....	.....	*Naturaliter Idiota;* was confined in Lunatic Wing untried from 18th June, until brought before the Circuit Court. Dangerous; makes sudden attacks on persons.
9	310/9	M. R.	27	...	Stirling Prison.	1	...	Nov. 12, ...	Theft by house-breaking and previous conviction.	Circuit Court, Stirling.	Found to be insane and not fit for trial, and to be detained in Prison until further orders of Court, 12th April 1850.	Do.	Mania .	.....	.....	Quiet and harmless.

Return by the Resident Surgeon, applicable to those Prisoners who have been confined in the Department for Criminal Lunatics—*continued*.

No.	C/n.	Name.	Age on committal to Prison. M.	Age on committal to Prison. F.	Whence brought.	Brought to Lunatic Department.	Afterwards transferred to Lunatic Department.	Date of Admission to Lunatic Department.	Offence of which accused or convicted.	By what Court tried.	Judgment of Court or other Judicial proceeding, with Date.	Whether admitted on Judicial Finding or Medical Certificate of Lunacy.	Form of Insanity.	Removed during the year. Date.	Removed during the year. Method.	REMARKS.
10	27/10	R. B. or M.	...	30	Edinburgh Prison.	1	...	Mar. 14, 1851	Assault . .	High Court of Justiciary, Edinburgh.	Found to be insane and not a proper object of trial, and ordered to be detained in Prison until further orders of Court, 12th March 1851.	Judicial Finding.	Mania.	....	.....	Subject to fits of passion; very incoherent.
11	133/11	I. B.	...	50	Perth County Prison.	1	...	May 14, 1852	Murder .	Circuit Court of Justiciary, Perth.	On trial, found to have been insane at the time of committing the offence, and not an object of punishment, and adjudged to be detained in Prison all her life, or at least until further orders of Court, 29th April 1852.	Do.	Homicidal Mania.	.....	.....	Murdered her mother; is a hypochondriacal and ill-tempered woman.
12	74/12	J. D. S.	24	...	Glasgow Prison.	1	...	Mar. 18, 1853	Murder. .	Circuit Court of Justiciary, Glasgow.	Death, but commuted to transportation for life, on account of insanity, 4th January 1853.	Medical Certificate.	Do.	.....	.....	Dangerous, and filthy in his habits; much exhausted in his system.
13	234/13	H. M'N.	27	...	Ayr Prison.	1	...	July 22, 1854	Rape . .	Circuit Court, Ayr.	Found to be insane, and not fit for trial, and adjudged to be imprisoned until further orders of the Court of Justiciary, 18th April 1854.	Judicial Finding.	Mania.	.....	.....	Of disgusting habits and conversation.
14	470/14	W. G. T.	35	...	Perth County Prison.	1	...	Oct. 13, 1855	Assault to the effusion of blood and serious injury of the person	Circuit Court of Justiciary, Perth.	Found, from the state of his intellect, not a proper object for trial, and to be detained in Prison subject to the future orders of the High Court, 2d October 1855.	Do.	Idiocy.	.....	.....	*Naturaliter Idiota.*
15	247/15	M. F. or M'L.	...	28	Glasgow Prison.	1	...	July 15, 1856	Murder .	Circuit Court of Justiciary, Glasgow.	Found to have been insane at the time of committing the act charged, and not a proper object of punishment, and adjudged to be detained in Prison subject to the future orders of the High Court of Justiciary, 2d May 1856.	Do.	Homicidal Mania.	.....	.....	In the puerperal state, and, under a fit of jealousy, destroyed her child.
16	43/16	H. S.	27	...	Edinburgh Prison.	1	...	Feb. 19, 1857	Murder .	High Court of Justiciary, Edinburgh.	Found to be insane, and not fit for trial, and ordered to be detained in the General Prison at Perth, subject to future orders of the Court, 16th February 1857.	Do.	Do.	.....	.....	When in the Greenock poorhouse, murdered one of the paupers; dangerous, and attacks persons suddenly.
17	338/16	A. M'P.	26	...	Inverness Prison.	1	...	Dec. 21, 1857	Murder .	Circuit Court of Justiciary, Inverness.	Found to be insane at the time he committed the act, and adjudged to be detained in Prison, subject to future orders of the High Court of Justiciary, 30th September 1857.	Judicial Finding.	Do.	.....	.....	Under delusions; murdered three persons, his father, mother, and aunt, in one night. Has had repeated homicidal impulses.
18	203/17	D. C.	37	...	Perth County Prison.	1	...	July 30, 1858	Murder .	Circuit Court of Justiciary, Perth.	Found to be insane, and not fit for trial; and ordered to be kept in custody until her Majesty's pleasure be known, 7th October 1858.	Do.	Do.	.....	.....	Has delusions that he is visited by good and evil spirits; also by the Three Persons in the Godhead. Irritable, passionate, proud.
19	214/17	T. A. S. or F. or T. or T.	39	...	Edinburgh Prison.	1	...	Aug. 14, 1858	Murder .	High Court of Justiciary, Edinburgh	Found to be insane and not fit for trial, and ordered to be kept in custody until her Majesty's pleasure be known, 19th July 1858.	Do.	Do.	.....	.....	Has delusions that poison has eaten away his brain and stomach; suicidal.
20	41/18	A. M.	23	...	Perth County Prison.	1	...	Feb. 22, 1859	Murder .	High Court of Justiciary.	Found to have been insane, and ordered to be kept in custody until Her Majesty's pleasure be known, 16th Nov. 1858.	Judicial finding.	Do.	.....	.....	Certified insane on admission; but has shown no mental disorder or delusion here. On the 30th Jan. 1861 was certified as sane, and, on the authority of the Prison Managers, was transferred to Main Prison on 5th March 1861, and put to prison service. Returned to Lunatic Department proper on the 17th December 1862.
21	88/15	C. M'K.	...	21	Glasgow Prison.	...	1	Dec. 20, ...	Theft and previous conviction.	Circuit Court, Glasgow.	15 years' transportation, 8th Jan. 1856, .	Medical Certificate	Mania.	.....	.....	Admitted to Main Prison, March 19, 1856; Imbecile, May 7, 1859; sent to Imbecile Ward at its opening in Aug. 1859. Has delusions that she gets poison and rats in her food. Violent, threatens, and strikes. Formerly in Brixton and Millbank.
22	177/19	I. S.		24												

														to be burned in the Poorhouse at Stirherself and two of her children into the canal at Falkirk; one of the children was drowned. Reported sane, 3d July 1862.
24	69/20	R. A. H.	...	27	Edinburgh Prison.	...	1	May 4, 1861	Theft and previous conviction.	High Court of Justiciary.	8 years' penal servitude, 4th Feb. 1861.	Do.	Mania.	.....	.....	R. A. H. was here formerly a convict under sentence of 4 years' penal servitude; always regarded as of weak mind; re-admitted weak-minded and violent. Insane delusions, soon after re-admission, took possession of her mind, that strange beings visited in her cell and tormented her. She became noisy, turbulent, and incoherent.
25	189/20	M. M'K. or M'G.	...	28	Perth Prison.	1	..	May 24, ...	Murder.	Circuit Court, Perth.	Found to have been insane, and ordered to be kept in custody until Her Majesty's pleasure be known, 26th April 1861.	Judicial finding.	Homicidal Mania.	.....	.....	Murdered her own boy, 4 years old, and attempted suicide under religious excitement after attending revival meetings. Reported as sane, 8th July 1862.
26	116/21	W. C.	46	...	Ditto.	1	...	April 15, 1862	Murder.	High Court of Justiciary.	Found to have been insane, and ordered to be kept in custody until Her Majesty's pleasure be known, 10th March 1862.	Judicial finding.	Homicidal Mania.	.....	.....	Still insane; talks of the person he murdered as alive; obscene in his conduct.
27	217/21	R. P.	35	...	Glasgow Prison.	1	...	June 26, ...	Murder.	Circuit Court, Glasgow.	Found to have been insane, and ordered to be kept in custody until Her Majesty's pleasure be known, 26th Sept. 1861.	Do.	Do.	.....	.....	This man was admitted June 26, 1862, and since that time has shown no symptoms of insanity. He murdered his own child under a fit of mania consequent upon habits of intemperance. Certified sane, 18th November 1862.
28	395/21	H. S., Jun.	30	...	Fort-Charlotte.	1	...	Nov. 19, ...	Assault.	Sheriff Court, Lerwick.	Found to have been insane, and ordered to be kept in custody until Her Majesty's pleasure be known, 14th Oct. 1862.	Do.	Mania.	.....	.....	This man's certificate bears that he believes in witchcraft, and that he can cure diseases by transferring them to himself.
29	17/22	T. D.	40	...	Glasgow Prison.	1	...	Jan. 7, 1863.	Assault with intent to ravish.	Circuit Court, Glasgow.	Found to have been insane, and ordered to be kept in custody until Her Majesty's pleasure be known, 23d December 1862.	Do.	Epileptic Mania.	.....	.....	On admission reported to have had epilepsy, succeeded by maniacal excitement at different times; also, that he held delusions. Since his admission he has had epileptic attacks, and in January made assaults upon the persons of fellow-prisoners.
30	392/20	J. M'C. or A.	...	37	Stirling Prison.	...	1	April 15, ...	Theft and previous conviction.	Circuit Court, Stirling.	4 years' penal servitude, 16th Sept. 1861.	Medical Certificate.	Mania.	Dec. 7.	Died	After receiving a letter of an unpleasant nature from her daughter, this prisoner became irritable, anxious, and full of remorse; also, alarmed about the state of her soul. She was associated in the Imbecile Ward for a few days, but became worse; turbulent, noisy, and incoherent. She had led a dissipated life.
31	75/21	C. C.	...	30	Glasgow Prison.	...	1	Oct. 12, ...	Theft and previous conviction.	Circuit Court, Glasgow.	6 years' penal servitude, 27th Dec. 1861.	Do.	Do.	.....	.....	This prisoner was here formerly a convict, and insane. After 4 years' penal servitude she was liberated of imbecile mind, and soon after was confined in an Asylum. She was re-admitted imbecile and associated, continuing much the same until 12th October 1863, when she became violent and incoherent, and was certified insane.
32	414/22	C. N. or N.	27	...	Dundee Prison.	...	1	Dec. 14, ...	Forgery and uttering a Bill of Exchange.	Circuit Court, Perth.	15 months' imprisonment, 18th Sept. 1863.	Do.	Do.	Feb. 8.	Died.	Laboured under mental excitement before imprisonment, and was represented by some to be insane from habits of dissipation.
33	38/23	C. M'E.	30	...	Glasgow Prison.	...	1	April 9, 1864	Theft and previous conviction.	Circuit Court, Glasgow.	4 years' penal servitude, 21st Dec. 1863.	Do.	Do.	.....	.....	This man was here formerly, and at liberation was sent to the Prison of Stirling, whence he came, and thence committed as insane to Montrose Asylum. When re-admitted here he was sane, but placed under special observation; and soon discovered the delusions about being poisoned, which belonged to his former attack of insanity. These he still holds.

Return by Resident Surgeon, applicable to those Prisoners who have been confined in the Department for Criminal Lunatics—*continued.*

No.	C/n.	Name.	Age on committal to Prison. M.	Age on committal to Prison. F.	Whence brought.	Brought to Lunatic Department.	Afterwards transferred to Lunatic Department.	Date of Admission to Lunatic Department.	Offence of which accused or convicted.	By what Court tried.	Judgment of Court or other Judicial proceeding, with Date.	Whether admitted on Judicial Finding or Medical Certificate of Lunacy.	Form of Insanity.	Removed during the year. Date.	Removed during the year. Method.	REMARKS.
34	123/23	J. M. or M. or M.	31	...	Edinburgh Prison.	1	...	April 11, 1864	Murder and Assault.	High Court of Justiciary, Edinburgh.	Found insane, and ordered to be kept in custody until Her Majesty's pleasure be known, 6th April 1864.	Judicial finding.	Homicidal mania.	.....	.....	Since admission, no symptoms of insanity have transpired in this case; and the Resident Surgeon has reported so, on 5th December 1864. He is a quiet man, and of an amiable and religious disposition, and the history of his offence is, that in a ship sailing from South America for Leith, he assaulted two seamen, one of whom died by stabbing with a knife, and this was done under suspicion that he himself was to be thrown overboard on the passage.
35	229 23	T. A.	55	...	Alloa Prison.	1	...	June 11, ...	Murder.	Ditto.	Found to have been insane, and ordered to be kept in custody until Her Majesty's pleasure be known, 6th June 1864.	Do.	Do.	.....	.....	Murdered a boy under the delusion that he was an emissary of the Free Church sent to injure him. Still holds delusions about his being persecuted by the Free Church.
36	412/22	A. M'I.	16	...	Edinburgh Prison.	...	1	July 21, ...	Theft and previous conviction.	Sheriff-Court, Edinburgh.	18 months' imprisonment, 1st Oct. 1863.	Medical Certificate.	Mania.	.....	.....	On admission, his medical certificate bore that he was weak-minded and phthisical, and was at once sent to the Imbecile Ward, where he became worse, entertaining delusions chiefly of a suspicious nature. He is improved in mind as well as body of late.
37	375/23	J. S. L.	29	...	Glasgow Prison.	1	...	Oct. 7, ...	Murder.	Circuit Court, Glasgow.	Found to have been insane, and ordered to be kept in custody until Her Majesty's pleasure be known, 21st Sept. 1864.	Judicial finding.	Homicidal mania.	.....	.....	This man has no peculiar delusions, is quiet, but almost fatuous. There is a strong hereditary predisposition to insanity, and from the evidence at his trial, the patient had been insane before he committed the murder charged. He cut his brother's throat with a razor.
38	32 23	M. S.	24	...	Ditto.	...	1	Oct. 10, ...	Theft by housebreaking and previous conviction.	Ditto.	8 years' penal servitude.	Medical Certificate.	Mania.	Dec. 2.	Died.	Was here formerly weak-minded; began to have delusions about his food, and was sent to Imbecile Ward, where he became worse; refused food, and indicated disease of brain.
39	461 23	A. W. or M'K.	...	24	Inveraray Prison.	1	...	Nov. 26, ...	Assault.	Sheriff-Court, Inverary.	Found to have been insane, and ordered to be kept in custody until Her Majesty's pleasure be known, 30th August 1864.	Judicial finding.	Do.	.....	.....	Her medical certificate bears that she is subject to insanity monthly, when she gets nervous and excited.
40	471/23	J. M'G. or G.	19	...	Greenlaw Prison.	1	...	Dec. 9, ...	Fire-raising.	Sheriff-Court, Greenlaw.	6 months' imprisonment, 27th Oct. 1864.	Medical Certificate.	Dementia.	.....	.....	Became insane after conviction, and was removed from Greenlaw Prison on Managers' authority, in terms of 25 and 26 Vict. c. 54, sect. 22; restless, mischievous, and dangerous.

General Prison, Perth, 19th January 1865.

No. XVIII.—Return for the Year 1864, of Prisoners put, by the authority of the Resident Surgeon, in Association, as better suited to their Mental Condition than Separately, with the reasons for Associating in each case.

No.	Current Number.	Name.	Age when committed to Prison. M.	Age when committed to Prison. F.	Prison whence Received.	Date of Sentence.	Duration of Sentence.	Date of Admission.	Date of putting on Treatment.	Condition.	Probable Cause of Condition.	Whether before or after Admission.	At the end of the Year. Not in Prison.			In Prison. In Association.	In Prison. In Separation.	In Prison. In Lunatic Department.	No.	Remarks.
1	452/18	M. B.		26	Dundee.	Oct. 3, 1859.	6 yrs.	Nov. 19, 1859.	Nov. 19/59.	Epileptic.	Congenital.	Before.	1	Liberated,	April 7,				1	Here formerly—often in prisons.
2	238/21	J. M'K.	18		Paisley.	July 8, 1862.	18 ms.	July 12, 1862.	July 12/62.	Suicidal.	Imbecile.	Do.	1	Do.	Jan. 8,				2	Here formerly—of very weak intellect.
3	266/21	C. R.		17	Dundee.	April 16, ...	4 yrs.	Aug. 21, ...	Aug. 21, ...	Epileptic.	Unknown.	Do.					1	Sep. 13,	3	Epileptic on admission.
4	323/21	J. M'A.	31		Glasgow.	Sept. 18, ...	18 ms.	Sept. 27, ...	Oct. 27, ...	Do.	Do.	Do.	1	Do.	Mar. 18,				4	Concealed his fits—but information was got from the Prison of Glasgow that he was an epileptic.
5	35/22	A. G.		22	Paisley.	Dec. 22, ...	4 yrs.	May 31, 1863.	Jan. 31/63.	Suicidal.	Weak-minded	Do.				1			5	Strongly suicidal.
6	15/22	J. B.		33	Edinburgh.	... 26, ...	18 ms.	... 6, ...	... 6, ...	Epileptic.	Congenital.	Do.	1	Do.	June 27,				6	Was insane—here formerly—very imbecile.
7	206/22	M. J. F.		15	Paisley.	April 23, 1863.	15 ...	May 2, ...	May 2, ...	Juvenile.	Age.	Do.	1	Do.	July 23,				7	
8	239/22	J. W.	33		Perth.	... 22, ...	12 ...	... 12, ...	... 12, ...	Epileptic.	Unknown.	Do.	1	Do.	April 22,				8	
9	226/22	B. C.		16	Glasgow.	... 22, ...	12 ...	... 11, ...	June 20, ...	Juvenile.	.....	Do.	1	Do.					9	
10	361/22	A. S.	24		Wick.	July 7, ...	24 ...	July 25, .	July 25, ...	Imbecile.	Congenital.	Do.				1			10	
11	380/22	T. H.	21		Edinburgh.	Aug. 18, ...	12 ...	Aug 22, ...	Aug. 22, ...	Do.	Was Insane.	Do.	1	Do.	Aug. 18,				11	On admission, reported as recently in Morningside Asylum.
12	364/20	A. C. L.		35	Do.	Sept. 25, 1861.	3 yrs.	Oct. 19, 1861.	Oct. 5, ...	Do.	Congenital.	Do.	1	Do.	Mar. 25,				12	
13	412/22	A. M'I.	16		Do.	Oct. 1, 1863.	18 ms.	Oct. 5, 1863.	... 5, ...	Do.	.....	Do.				1			13	
14	435/22	E. C.		14	Hamilton.	Sept. 29, ...	24 ...	Oct. 12, ...	... 12, ...	Juvenile.	.....	Do.				1			14	
15	160/22	J. H.	50		Edinburgh.	Mar. 30, ...	24 ...	April 11, ...	... 31, ...	Epilepsy.	Was Insane.	Do.	1	Died,	April 15,				15	Here formerly—insane.
16	483/22	M. M'F.		39	Glasgow.	Oct. 1, ...	4 yrs.	Nov. 2, ...	Nov. 2, ...	Do.	Congenital.	Do.					1	Nov. 15,	16	Here formerly—imbecile and paralytic, etc.
17	566/22	J. M.	40		Stirling.	Dec. 25, ...	18 ms.	Dec. 31, ...	Dec. 31, ...	Epileptic.	Unknown.	Do.	1	Do.	May 29,				17	
18	493/22	J. R.		21	Ayr.	Dec. 8, 1862.	8 yrs.	Nov. 4, ...	Nov. 4, ...	Imbecile.	Congenital.	Do.					1		18	Here formerly—a convict—weak-minded.
19	53/23	M. E. or B.		35	Paisley.	Jan. 28, 1864.	9 ms.	Feb. 6, 1864.	Feb. 6/64	Do.	Paralysis.	Do.	1	Liberated,	Oct. 28,				19	On admission, weak-minded and paralytic.
20	65/23	A. C.	25		Glasgow.	Feb. 12, ...	15 ...	... 18, ...	... 18, ...	Epileptic.	Unknown.	Do.				1			20	
21	82/23	A. T.	27		Greenlaw.	... 26, ...	9 ..	Mar. 3, ...	Mar. 11, ...	Weak-minded.	Congenital.	Do.	1	Do.	Nov. 26,				21	Evidently weak-minded congenitally.
22	389/21	J. M'L.		27	Glasgow.	Sept. 28, 1862.	Life.	Nov. 11, 1862.	April 18, ...	Fainting fits.	Exhaustion.	After.					1	Dec. 25,	22	Subject to fainting fits.
23	413/22	J. B.	31		Inverness.	Sept. 29, 1863.	18 ms.	Oct. 5, 1863.	Oct. 5/63.	Imbecile.	Was Insane.	Before.				1			23	Here formerly—insane.
24	87/23	M. L. or S.		28	Glasgow.	Mar. 4, 1864.	12 ...	Mar. 9, 1864.	May 9/64.	Suicidal.	Anxiety.	After.				1			24	Anxious about her family—strongly suicidal.
25	179/23	J. D.	22		Do.	April 22, ...	3 yrs.	May 9, ...	... 20, ...	Epileptic.	Congenital.	Before.	1	Sent to Woking.	June 27,				25	Here formerly—congenitally epileptic.
26	220/23	C. or C. M'M.		47	Stirling.	May 27, ...	12 ms.	June 3, ...	June 3, ...	Do.	Unknown.	Do.				1			26	
27	138/23	W. H.	23		Glasgow.	April 22, ...	12 ...	May 2, ...	... ...	Imbecile.	.....	After.				1			27	Has delusions, but not troublesome.
28	32/23	M. S.	24		Do.	Dec. 23, 1863.	8 yrs.	Jan. 26, ...	... 18, ...	Do.	Congenital.	Before.						1 Oct. 10,	28	Died in Lunatic Department, December 2.
29	252/23	P. A.	20		Do.	July 1, 1864.	9 ms.	July 7, ...	July 7, ...	Epileptic.	Do.	Do.					1	Oct. 18,	29	Here formerly—had no fits.
30	256/23	H. S. or M.		56	Dundee.	.....	10 ...	... 8, ...	... 8, ...	Do.	Do.	Do.				1			30	
31	331/23	E. M. or H.		20	Edinburgh.	Aug. 15, ...	12 ...	Aug. 17, ...	Aug. 17, ...	Suicidal.	Rage.	Do.				1			31	Made repeated suicidal attempts.
32	295/23	M. M'L.		22	Ayr.	April 17, 1863.	4 yrs.	July 18, ...	Sep. 12, ...	Imbecile.	Congenital.	Do.					1	Dec. 14,	32	Here formerly—imbecile and scrofulous.
33	403/23	J. D.	40		Glasgow.	Sept. 20, 1864.	8 ...	Oct. 17, ...	Oct. 18, ...	Epileptic.	Do.	Do.				1			33	Here formerly.
34	116/23	A. M'J.		22	Do.	Mar. 25, ...	9 ms.	April 1, ...	... 21, ...	Anxiety	about friends	After.					1	Oct. 24,	34	For a few days excited and suicidal, and had a companion.
35	386/23	A. J.	14		Inverness.	Sept 16, ...	18 ...	Oct. 14, ...	Dec. 9, ...	Weak-minded.	Separation.	Do.				1			35	A juvenile—mind disturbed.
36	512/23	H. R.		20	Perth.	Dec. 23, ...	9 ...	Dec. 29, ...	... 29, ...	Epileptic.	Unknown.	Before.				1			36	

General Prison, Perth, 19th January 1865.

J. B. THOMSON, *Resident Surgeon.*

No. XIX.—RETURN relative to Female Convicts in the Prison of Ayr, for the year ended 31st December 1864.

I. Accommodation :—

Number of Cells,	99

II. Convicts :—

At commencement of year,	66
Admitted during the year,—	
From the General Prison at Perth,	...
From Local Prisons in Scotland,	72
Total admitted, and who have been in the Prison,	138
Removed, viz.—	
To the General Prison at Perth,	43
Liberated on License,	3
	46
In custody at the end of the year,	92
Average daily number throughout the year,	81

III. Punishments :—

Number of Cases of Punishment,	43
Number of Prisoners who have been punished,	29
Number of Prisoners who have *not* been punished,	109

IV. Education and Ages of Convicts in Custody at 31st December 1864 :—

	15 Years and under 20.	20 Years and under 25.	25 Years and under 30.	30 Years and under 40.	40 Years and under 50.	50 Years and upwards.	Total.
Could not read,	...	...	1	3	...	...	4
Could read a little,	1	7	4	11	8	6	37
Could read well,	2	8	10	13	9	9	51
Total,	3	15	15	27	17	15	92
Could not write,	...	2	6	10	2	7	27
Could write a little,	2	12	8	12	14	8	56
Could write well,	1	1	1	5	1	...	9
Total,	3	15	15	27	17	15	92

V. Sentences of Convicts in Custody at 31st December 1864 :—

3 Years.	5 Years.	6 Years.	7 Years.	8 Years.	9 Years.	10 Years.	15 Years.	21 Years.	Life.	Total.
7	29	13	11	8	9	2	10	1	2	...	92

VI. Sickness of Convicts :—

On Register at the commencement of Year.	Number put on Register during the Year.	Total.	Number Removed from Register.	Number on Register at 31st December 1864.
7	11	18	14	4

Of these there were—

Slightly ill,	6	Contracted before Admission,	10
Seriously ill,	5	Contracted after Admission,	1

Prison of Ayr, 2d January 1865. Wm. B. M'Kissock, *Governor.*

I certify as to the correctness of Table No. VI. of this Report.

Robert Dobbie, M.D., L.R.C.S.E.

To the Managers appointed under the "Prisons Administration Act," Edinburgh.

No.	C/n.	Initials.	Offence.	Date of Sentence.	Sentence.	Recorded Number of Prison Offences.	Recorded Weekly Conduct.						Longest period remissible in Secretary of State's Scale.	Time deducted from longest period.	Date of Liberation.	How Disposed of.
							Very Good.	Good.	Indifferent.	Bad.	Very Bad.	Total Number of Weeks.				
1	215/20	J. W.	Theft and prev. con.	Oct. 2, 1860.	4 years' penal serv.	None.	...	126	1	...	...	127	9 months.	None.	Jan. 6, 1864.	Received into "The Rescue Home," Edinburgh.
2	373/17	M. M.	Ditto.	... 2, 1858.	7 years' penal serv.	Do.	53	150	...	...	...	203	21 months.	None.	... 6, ...	Went to Edinburgh.
3	335/19	H. B.	Ditto.	... 3, 1860.	4 years' penal serv.	Do.	26	128	...	...	...	154	9 months.	None.	... 7, ...	Returned to Forres, where her mother received her.
4	364/17	A. R. or R.	Ditto.	Sept. 29, 1858.	7 years' penal serv.	Two.	...	188	6	...	1	195	21 months.	2 weeks.	... 12, ...	Went to Grantown.
5	314/19	A. M'N.	Robbery.	... 12, 1860.	4 years' penal serv.	Four.	8	121	11	2	6	148	9 months.	1 month.	... 12, ...	Went to Glasgow, *en route* to Liverpool, where her friends reside.
6	252/18	H. H.*	Theft and prev. con.	July 11, 1859.	6 years' penal serv.	One.	50	151	...	2	...	203	18 months.	2 weeks.	... 25, ...	Went to Edinburgh.
7	307/19	E. M'D.	Theft, habit and repute, and prev. con.	Oct. 8, 1860.	4 years' penal serv.	Three.	...	142	7	4	1	154	9 months.	3 weeks.	... 29, ...	Returned to Aberdeen.
8	320/19	J. S.	Theft by housebreaking, and prev. con.	Sept. 11, 1860.	Ditto.	None.	...	162	2	...	...	164	Ditto.	None.	Mar. 11, ...	Returned to Glasgow.
9	364/20	A. or L. C.	Child murder.	... 25, 1861.	3 years' penal serv.	Do.	...	119	...	...	...	119	6 months.	None.	... 25, ...	A pauper, to be cared for by the authorities.
10	24/20	J. B. or D.	Theft and prev. con.	Dec. 26, 1860.	4 years' penal serv.	Do.	1	156	...	...	...	157	9 months.	None.	... 26, ...	Received by a brother in Paisley.
11	27/20	M. B. or D.	Ditto.	... 26, ...	Ditto.	Do.	...	157	...	...	...	157	Ditto.	None.	... 26, ...	Received by her mother in Greenock.
12	28/20	M. S. or H.	Ditto.	... 26, ...	Ditto.	One.	...	155	1	1	...	157	Ditto.	None.	... 26, ...	Received by her husband in Greenock.
13	25/20	S. C.	Ditto.	... 28, ...	Ditto.	Do.	...	147	8	1	1	157	Ditto.	None.	... 28, ...	Returned to her parents in Glasgow.
14	26/20	A. D. or M.	Ditto.	... 31, ...	Ditto.	Do.	...	153	2	2	...	157	Ditto.	None.	... 28, ...	Went to Glasgow.
15	452/18	M. B.	Ditto.	Oct. 3, 1859.	6 years' penal serv.	None.	...	213	2	1	...	216	18 months.	None.	April 7, ...	Escorted to Cupar-Fife, and handed over to her son.
16	461/18	J. C. or S.	Ditto.	... 3, ...	Ditto.	Do.	24	190	1	1	...	216	Ditto.	None.	... 7, ...	Went to her relatives in Glasgow.
17	67/20	B. M'K or R.†	Ditto.	Jan. 21, 1861.	4 years' penal serv.	Do.	2	153	..	...	...	155	9 months.	None.	... 21, ...	Returned to her husband in Leith.
18	68/20	C. P.	Ditto.	... 21, ...	Ditto.	One.	...	154	...	1	...	155	Ditto.	None.	... 21, ...	Received into "The Rescue Home," Edinburgh.
19	300/16	M. Y. or A.	Ditto.	April 21, 1857.	15 years' transport.	None.	..	182	2	...	...	184	6½ years.	None.	... 21, ...	Went to Dundee, with the view of obtaining factory work.
20	224/17	A. G.	Ditto.	July 19, 1858.	7 years' penal serv.	Do.	5	254	4	...	...	263	21 months.	None.	July 19, ...	Went to Edinburgh in search of work.
21	232/18	J. C. or B.	Theft, habit and repute, and prev. con.	April 19, 1859.	Ditto.	Do.	...	226	4	...	...	230	Ditto.	None.	... 19, ...	Received by her daughter in Dundee.
22	205/20	M. G or B.	Theft and prev. con.	... 30, 1861.	4 years' penal serv.	One.	...	152	1	1	...	154	9 months.	None.	... 30, ...	Went to live with an aunt near Banff.
23	206/20	J. M. or M.	Ditto.	May 20, ...	Ditto.	Do.	...	156	...	1	...	187	Ditto.	None.	Aug. 20, ...	Went to her son in Edinburgh.
24	210/20	M. H.	Theft, habit and repute, and prev. con.	... 20, ...	Ditto.	None.	...	157	...	...	...	157	Ditto.	None.	... 20, ...	Went to work in a mill at Dundee.
25	221/20	E. K.	Assault and robbery.	April 25, ...	Ditto.	Three.	...	154	1	3	...	158	Ditto.	1 month.	... 25, ...	Went to Glasgow.
26	324/19	M. A. or D.	Theft and prev. con.	Sept. 12, 1860.	5 years' penal serv.	None.	3	183	1	1	...	188	12 months.	None.	Sept. 12, ...	Went to Glasgow in search of work.
27	227/20	S. M'N.	Ditto.	April 22, 1861.	4 years' penal serv.	Four.	...	152	5	5	...	162	9 months.	2 months.	... 22, ...	Received by her parents in Glasgow.
28	342/17	M. F.	Ditto.	Oct. 8, 1858.	8 years' penal serv.	One.	...	232	5	2	...	239	2 years.	None.	Oct. 8, ...	Received by her mother in Dundee.
29	349/17	A. or N. M'R.	Ditto.	... 11, ...	Ditto.	None.	32	206	1	...	...	239	Ditto.	None.	... 11, ...	Went to Perth.
30	267/21	A. A.	Ditto.	April 16, 1862.	3 years' penal serv.	Do.	41	60	...	...	...	101	6 months.	None.	... 16, ...	Went to live with a sister in Leith.
31	271/21	J. T. or D.	Ditto.	... 16, ...	Ditto.	Do.	48	53	...	...	...	101	Ditto.	None.	... 16, ...	Received by a brother in Dundee.
32	486/22	A. M. or M'F.	Theft, habit and repute, and prev. con.	May 20, 1861.	4 years' penal serv.	Seven.	4	137	9	3	2	155	9 months.	2 months.	... 20, ...	Went to Edinburgh.
33	323/19	M. C. or M'I.	Theft and prev. con.	Sept. 11, 1860.	5 years' penal serv.	Three.	...	188	3	2	1	194	12 months.	6 weeks.	... 24, ...	Received by her father in Glasgow.
34	322/19	M. H. or M'D.	Ditto.	... 11, ...	Ditto.	Do.	...	158	26	11	3	198	Ditto.	2 months.	Nov. 11, ...	An invalid. Cared for by the parochial authorities, Perth.
35	344/15	H. M.	Child murder.	... 26, 1856.	21 years' transport.	None.	148	60	...	...	...	208	12 yrs. and 10 months.	None.	... 11, ...	Employed as a domestic servant by a lady in Edinburgh.

* Reconvicted of Theft at the High Court of Justiciary on 12th December 1864, and sentenced to 10 years' Penal Servitude.
† Do. do. 12th December 1864, do. 9 years' do.

PARTICULARS relating to 50 CONVICTS released on Orders of License by the SECRETARY of STATE, from the GENERAL PRISON FOR SCOTLAND AT PERTH, during the **Year ended 31st December 1864**—*continued.*

No.	C/n.	Initials.	Offence.	Date of Sentence.	Sentence.	Recorded Number of Prison Offences.	Recorded Weekly Conduct.						Longest period remissible in Secretary of State's Scale.	Time deducted from longest period.	Date of Liberation.	How Disposed of.
							Very Good.	Good.	Indifferent.	Bad.	Very Bad.	Total Number of Weeks.				
36	202/15	E. or B., B. or B.	Theft by housebreaking, and opening lockfast places, and prev. con.	April 30, 1856.	21 years' transport.	Two.	...	216	4	...	...	220	12 yrs. and 10 months.	None.	Nov. 30, 1864.	Emigrated to Australia.
37	289/21	M. S. or S.	Culpable homicide.	June 23, 1862.	3 years' penal serv.	None.	52	61	...	...	...	113	6 months.	None.	Dec. 5, ...	Employed by a farmer near Blairgowrie.
38	353/20	H. M'L. or A.	Theft and prev. con.	Sep. 10, 1861.	4 years' penal serv.	Do.	33	125	...	...	...	158	9 months.	None.	... 10, ...	Went to Dundee.
39	354/20	M. C. or C.	Ditto.	... 10, ...	Ditto.	Do.	...	...	158	...	...	158	Ditto.	None.	... 10, ...	Received by her family in Dundee.
40	334/19	S. H.	Robbery.	Nov. 10, 1860.	5 years' penal serv.	Two.	...	197	4	2	..	203	12 months.	1 month.	... 10, ...	Returned to Edinburgh.
41	225/19	S. M'C. or D.	Theft and prev. con.	June 11, 1860.	6 years' penal serv.	None.	...	215	...	...	...	215	18 months.	None.	... 12, ...	Returned to Edinburgh.
42	355/20	I. R. or S	Ditto.	Sep. 17, 1861.	4 years' penal serv.	Do.	7	151	...	...	...	158	9 months.	None.	... 17, ...	Received by her husband and family in Hawick.
43	348/20	A. M'D. or M'L.	Theft, habit and repute, and prev. con.	... 18, ...	Ditto.	Do.	14	144	...	...	...	158	Ditto.	None.	.. 18, ...	Received by a daughter in Dundee.
44	412/20	M. F. or O'B.	Theft and prev. con.	... 24, ...	Ditto.	Do.	...	152	...	...	...	152	Ditto.	None.	... 24, ...	Went to Glasgow in search of work.
45	352/20	A. M'G.	Theft, habit and repute, and prev. con.	... 10, ...	Ditto.	Two.	...	154	3	...	1	158	Ditto.	2 weeks.	... 24, ...	Went to Dundee in search of work.
46	400/20	E. M.	Theft and prev. con.	... 26, ...	Ditto.	One.	...	147	4	1	...	152	Ditto.	None.	... 26, ...	Received by her father in Glasgow.
47	414/20	M. I.	Contravention of Act 2 Will. IV., cap. 34, § 7.	... 26, ...	Ditto.	None.	...	151	1	...	...	152	Ditto.	None.	... 26, ...	Went to Glasgow in search of work.
48	413/20	M. B.	Theft and prev. con.	... 26, ...	Ditto.	Do.	...	134	11	6	1	152	Ditto.	None.	... 26, ...	Received by her mother in Glasgow.
49	403/20	H. H. or H.	Ditto.	... 28, ...	Ditto.	Do.	2	150	...	...	...	152	Ditto.	None.	... 28, ...	Went to Glasgow in search of work.
50	227/19	M. P. or D.	Ditto.	... 30, 1857.	10 years' penal serv.	Do.	...	215	...	...	...	215	2 years and 9 months.	None.	... 30, ...	Escorted to the City Poor House Glasgow, and left there.

PARTICULARS relating to 3 CONVICTS released on Orders of License by the SECRETARY of STATE, from the PRISON OF AYR, during the **Year ended 31st December 1864.**

1	63/3	H. D.*	Theft, habit and repute, and prev. con.	May 20, 1861.	4 years' penal serv.	Five.	35	127	2	...	3	167	9 months.	2 months.	Oct. 20, 1864.	Went to her mother in Edinburgh, who was willing to receive her.
2	63/5	M. R. or W.	Theft and prev. con.	April 23, 1861.	Ditto.	Seven.	44	117	2	1	3	167	Ditto.	3 months.	... 24, ...	Went to reside with her son in Glasgow.
3	63/1	E. H.	Theft and prev. con.	... 30, ...	Ditto.	One.	33	133	1	...	1	168	Ditto.	3 months.	... 31, ...	Went to her husband in Stirling, who was willing to receive her.

* License revoked by the Secretary of State, and Convict readmitted into the Prison of Ayr on 23d December 1864.

XXI.—ABSTRACT of Account of Expenses incurred by the Prison Managers (Scotland), through the Governor of the General Prison at Perth, and the Prison Boards of the several Counties, under Orders issued by the Secretary of State, in the conveyance of Convicts in charge of Escort Officers from Prisons in Scotland to Prisons in England, to the General Prison at Perth, and the Prison of Ayr, and the re-conveyance of Officers, for the Year 1864.

	Prisons whence Removed.	Prisons to which Removed.	Convicts Removed.		Employed in Service.		Railway Fares.	Allowances according to Rule.	TOTAL.
			To Station Prisons.	To Convict Prisons.	No. of Officers.	No. of Days.			
1	Edinburgh,	Millbank,	..	3	2	4	£13 9 0	£7 10 0	
2	Edinburgh,	Ditto,	..	7	3	4	23 7 0	9 6 6	
3	Glasgow,	Ditto,	..	9	3	4	25 5 0	12 1 5	
4	Glasgow to Edinburgh,	Ditto,	3	..	..	..	....	4 14 0	
5	Forfar to Edinburgh,	Ditto,	1	..	..	..	....	2 11 4	
6	Dundee to Edinburgh,	Ditto,	1	..	..	..	....	3 3 8	
7	Jedburgh to Edinburgh,	Ditto,	1	..	..	..	....	3 6 6	
8	Jedburgh to Edinburgh,	Ditto,	1	..	..	..	....	3 7 6	
			7	19	8	12	£62 1 0	£46 0 11	£108 1 11
9	General Prison,	Chatham,	..	7	3	5	25 17 10	6 16 6	
10	Ditto,	Ditto,	..	3	2	5	12 19 0	5 19 9	
11	Ditto,	Ditto,	..	13	3	5	35 17 0	9 6 4	
12	Ditto,	Ditto,	..	10	3	5	31 17 4	7 4 8	
13	Ditto,	Ditto,	..	3	2	5	12 19 0	6 16 5	
			..	36	13	25	£119 10 2	£36 3 8	155 13 10
14	General Prison,	Portsmouth,	..	18	4	5	56 2 4	9 4 8	
15	Ditto,	Ditto,	..	6	2	5	19 8 6	19 4 9*	
16	Ditto,	Ditto,	..	7	3	5	28 1 2	6 15 8	
17	Ditto,	Ditto,	..	2	2	5	11 2 0	4 17 8	
			..	33	11	20	£114 14 0	£40 2 9	154 16 9
18	General Prison,	Portland,	..	3	2	5	12 19 0	10 2 7	
19	Ditto,	Ditto,	..	15	4	5	54 3 6	13 5 9	
			..	18	6	10	£67 2 6	£23 8 4	90 10 10
20	General Prison,	Woking,	..	3	2	5	12 19 0	6 1 8	
21	Ditto,	Ditto,	..	6	3	5	21 9 0	....†	
			..	9	5	10	£34 8 0	£6 1 8	40 9 8
22	Aberdeen,	General Prison,	..	4	2	..	....	7 4 9	
23	Aberdeen,	Ditto,	..	1	1	..	....	3 2 3	
24	Ayr,	Ditto,	..	2	2	..	....	8 0 8	
25	Ayr,	Ditto,	..	21	4	..	....	20 6 2	
26	Ayr,	Ditto,	..	22	5	..	....	19 18 8	
27	Dumfries,	Ditto,	..	1	2	..	....	6 13 8	
28	Dumfries,	Ditto,	..	1	1	..	....	4 12 0	
29	Cupar,	Ditto,	..	1	2	..	....	2 10 2	
30	Cupar,	Ditto,	..	1	2	..	....	2 10 2	
31	Dundee,	Ditto,	..	7	3	..	....	5 18 0	
32	Dundee,	Ditto,	..	3	2	..	....	4 0 8	
33	Edinburgh,	Ditto,	..	4	2	..	....	5 8 10	
34	Edinburgh,	Ditto,	..	5	2	..	....	5 18 3	
35	Edinburgh,	Ditto,	..	1	1	..	....	2 6 3	
36	Edinburgh,	Ditto,	..	5	2	..	....	5 14 0	
37	Edinburgh,	Ditto,	..	4	2	..	....	5 6 10	
38	Edinburgh,	Ditto,	..	5	4	..	....	5 10 11	
39	Dunfermline,	Ditto,	..	1	2	..	....	3 1 3	
40	Forfar,	Ditto,	..	1	1	..	....	2 0 6	
41	Forfar,	Ditto,	..	1	1	..	....	1 19 2	
42	Inverary,	Ditto,	..	2	2	..	....	7 16 8	
43	Inverary,	Ditto,	..	1	2	..	....	5 16 7	
44	Inverness,	Ditto,	..	1	2	..	....	6 10 0	
45	Inverness,	Ditto,	..	2	2	..	....	8 6 0	
46	Glasgow,	Ditto,	..	14	4	..	....	13 18 8	
47	Glasgow,	Ditto,	..	5	3	..	....	7 3 0	
48	Glasgow,	Ditto,	..	14	4	..	....	13 15 8	
49	Glasgow,	Ditto,	..	6	2	..	....	7 6 8	
50	Glasgow,	Ditto,	..	8	3	..	....	9 8 4	
51	Glasgow,	Ditto,	..	9	3	..	....	9 18 6	
52	Glasgow,	Ditto,	..	2	2	..	....	4 15 0	
53	Paisley,	Ditto,	..	1	2	..	....	3 17 8	
54	Perth,	Ditto,	..	1	..	..	....	1 7 6	
55	Perth,	Ditto,	..	3	..	..	....	2 18 6	
56	Perth,	Ditto,	..	2	..	..	....	2 13 6	
57	Stirling,	Ditto,	..	1	2	..	....	2 15 7	
			..	163	76	..	....	£230 11 0	230 11 0
58	Aberdeen,	Ayr,	..	7	4	..	....	20 5 7	
59	Aberdeen,	Ditto,	..	3	2	..	....	10 12 0	
60	Dumfries,	Ditto,	..	1	2	..	....	3 17 0	
61	Dundee,	Ditto,	..	4	3	..	....	11 6 6	
62	Dundee,	Ditto,	..	3	3	..	....	9 17 0	
63	Dundee,	Ditto,	..	1	2	..	....	5 12 2	
64	Edinburgh,	Ditto,	..	3	2	..	....	7 1 0	
65	Edinburgh,	Ditto,	..	2	2	..	....	5 9 6	
66	Edinburgh,	Ditto,	..	3	3	..	....	8 2 6	
67	Edinburgh,	Ditto,	..	1	2	..	....	4 7 0	
68	Edinburgh,	Ditto,	..	4	3	..	....	8 19 3	
69	Forfar,	Ditto,	..	1	2	..	....	6 2 10	
70	Inverness,	Ditto,	..	1	2	..	....	7 6 0	
71	Inverness,	Ditto,	..	4	3	..	....	20 18 2	
72	Glasgow,	Ditto,	..	5	3	..	....	6 14 3	
73	Glasgow,	Ditto,	..	11	4	..	....	10 7 9	
74	Glasgow,	Ditto,	..	1	2	..	....	2 14 3	
75	Glasgow,	Ditto,	..	6	3	..	....	7 9 0	
76	Paisley,	Ditto,	..	2	2	..	....	4 1 0	
77	Perth,	Ditto,	..	1	2	..	....	5 4 8	
78	Perth,	Ditto,	..	2	2	..	....	7 2 8	
79	Stirling,	Ditto,	..	3	2	..	....	6 8 3	
80	Stirling,	Ditto,	..	2	2	..	....	5 12 0	
			..	71	57	..	....	£185 10 4	185 10 4
									£965 14 4

* This includes the expense of removing 6 Convicts at same time to Woking.

† Included as above.

No. XXII.—TABLE of the whole Assessments laid on at Meetings of the Prison Boards for the Counties in Scotland, in the Year 1864, in terms of "The Prisons (Scotland) Administration Act 1860," together with the Apportionments of such Assessments among the Landward Parts and Burghs respectively, according to the value of Property.

Counties, and Royal and Parliamentary Burghs situated therein.	For Current Expenses under § 32, and Apportionment thereof.	For Building Assessment under § 33, and Apportionment thereof.	Total Yearly Value of Property on which Assessment is divided and apportioned per § 34.
	£ s. d.	£ s. d.	£ s. d.
1. Aberdeen—			
Landward part,	1,117 10 9	...	649,846 0 0
Aberdeen,	341 0 9	...	198,284 10 0
Peterhead,	28 18 2	...	16,807 0 0
Inverury,	8 19 0	...	5,208 11 1
Kintore,	3 11 4	...	2,076 15 6
	1,500 0 0	...	872,222 16 7
2. Argyle—			
Landward part,	467 12 4	...	321,796 15 3
Campbeltown,	19 12 11	...	13,519 18 3
Inveraray,	3 13 10	...	2,540 0 0
Oban,	9 0 11	...	6,226 1 2
	500 0 0	...	344,082 14 8
3. Ayr—			
Landward part,	797 2 6	...	855,899 0 0
Ayr,	44 12 10	...	47,933 0 0
Kilmarnock,	46 1 4	...	49,464 0 0
Irvine,	12 3 4	...	13,071 0 0
	900 0 0	...	966,367 0 0
4. Banff—			
Landward part,	281 15 10	...	175,418 3 3
Banff,	13 13 4	...	8,510 6 0
Cullen,	4 10 10	...	2,843 7 9
	300 0 0	...	186,766 17 0
5. Berwick—			
Landward part,	300 19 10	...	336,482 15 11
Lauder,	2 0 2	...	2,241 14 6
	303 0 0	...	338,724 10 5
6. Bute—			
Landward part,	135 0 8	...	37,878 0 0
Rothesay,	94 19 4	...	26,639 0 0
	230 0 0	...	64,517 0 0
7. Caithness—			
Landward part,	212 13 1	...	102,039 17 0
Wick,	37 6 11	...	17,919 10 0
	250 0 0	...	119,959 7 0
8. Clackmannan—			
Landward part,	260 0 0	...	66,496 1 4

Counties, and Royal and Parliamentary Burghs situated therein.	For Current Expenses under § 32, and Apportionment thereof.	For Building Assessment under § 33, and Apportionment thereof.	Total Yearly Value of Property on which Assessment is divided and apportioned per § 34.
	£ s. d.	£ s. d.	£ s. d.
16. Inverness—			
Landward part,	533 0 0	...	236,213 0 0
Inverness,	68 4 5	...	30,233 0 0
	601 4 5	...	266,446 0 0
17. Kincardine—			
Landward part,	198 6 3	...	210,802 16 1
Inverbervie,	1 12 9	...	1,710 12 6
	199 19 0	...	212,513 8 7
18. Kinross—			
Landward part,	140 0 0		58,069 4 2
	140 0 0		58,069 4 2
19. Kirkcudbright,—			
Landward part,	342 1 11	141 9 3	288,460 3 7
Kirkcudbright,	6 19 6	2 17 8	5,882 13 1
New Galloway,	0 18 7	0 7 8	784 0 3
	350 0 0	144 14 7	295,126 16 11
20. Lanark—			
Landward part,	4,416 15 9	555 4 3	1,163,410 11 8
Glasgow,	6,002 5 10	754 10 4	1,581,043 0 0
Airdrie,	97 4 8½	12 4 5½	25,613 4 11
Hamilton,	85 8 4½	10 14 9½	22,500 0 0
Rutherglen,	62 16 8	7 18 0	16,550 12 0
Lanark,	35 8 8	4 9 0	9,333 1 0
	10,700 0 0	1345 0 10	2,818,450 9 7
21. Linlithgow—			
Landward part,	285 12 4	...	192,654 13 8
Linlithgow,	11 9 7	...	7,743 6 5
Queensferry,	2 18 1	...	1,950 16 3
	300 0 0	...	202,348 16 4
22. Nairn—			
Landward part,	89 6 0	...	28,349 14 11
Nairn,	20 14 0	...	6,571 19 6
	110 0 0	...	34,921 14 5
23. Orkney—			
Landward part,	88 8 3	...	45,514 19 6
Kirkwall,	11 11 9	...	5,967 5 6

Landward part,	215	0	0	...	197,462	2	8	Landward part,	169	16	3	...	3,764	12	0
Dumbarton,	18	0	0	...	21,315	16	0	Peebles,	10	3	9	...	5,923	7	8
	233	0	0	...	218,777	18	8		180	0	0	...	99,377	19	8
10. Dumfries—								25. Perth—							
Landward part,	453	4	0	...	463,475	5	2	Landward part,	731	8	6	...	801,689	17	10
Dumfries,	34	0	0	...	34,784	1	9	Perth,	67	8	4	...	73,893	2	0
Annan,	8	3	0	...	8,332	11	1	Culross,	1	3	2	...	1,269	12	2
Sanquhar,	2	17	6	...	2,938	1	6		800	0	0		876,852	12	0
Lochmaben,	1	15	6	..	1,806	8	0								
	500	0	0	..	511,336	7	6	26. Renfrew—							
11. Edinburgh—								Landward part,	1,229	13	0	...	343,583	7	3
Landward part,	1685	6	11	...	450,836	0	0	Paisley,	344	6	9	...	96,213	12	2
Edinburgh,	3212	16	9	...	859,445	0	0	Greenock,	430	13	0	...	120,328	0	0
Leith,	451	6	1	...	120,726	0	0	Port-Glasgow,	69	11	7	...	19,441	17	11
Musselburgh,	65	3	4	...	17,432	0	0	Renfrew,	25	15	8	...	7,204	4	3
Portobello,	85	6	11	...	22,830	0	0		2,100	0	0	...	586,771	1	7
	5500	0	0	...	1,471,269	0	0	27. Ross & Cromarty—							
12. Elgin—								Landward part,	559	14	7	...	199,500	8	3
Landward part,	291	7	2½	...	141,244	0	0	Dingwall,	15	3	2	...	5,403	0	6
Elgin,	43	6	3	...	20,997	0	0	Tain,	11	1	7	...	3,949	11	10
Forres,	15	6	6½	...	7,430	0	0	Fortrose,	8	9	10	...	3,026	19	3
	350	0	0	...	169,671	0	0	Cromarty,	5	10	10	...	1,975	1	0
13. Fife—									600	0	0	...	213,855	0	10
Landward part,	851	16	9	190	12	11	614,588	6	7	28. Roxburgh—							
Anstruther Easter,	5	8	9	1	4	4	3,925	3	11	Landward part,	633	17	0	...	382,367	0	11
Anstruther Wester,	2	2	10	0	9	7	1,547	4	10	Jedburgh,	16	3	0	...	9,743	5	8
Auchtermuchty,	3	5	8	0	14	8	2,368	15	5		650	0	0	...	392,110	6	7
Burntisland,	14	5	9	3	3	11	10,307	10	2	29. Selkirk—							
Crail,	4	1	4	0	18	2	2,935	17	9	Landward part,	163	6	10	1318	0	0	62,924	0	0
Cupar,	18	3	5	4	1	4	13,112	12	9	Selkirk,	22	13	2	182	0	0	8,727	0	0
Dunfermline,	39	1	2	8	14	10	28,179	1	7		186	0	0	1500	0	0	71,651	0	0
Dysart,	18	0	5	4	0	8	13,002	6	3	30. Stirling—							
Earlsferry,	0	14	0	0	3	3	500	12	6	Landward part,	857	0	9	...	393,043	15	3
Falkland,	3	1	7	0	13	9	2,221	1	6	Falkirk,	46	5	11	...	21,232	13	5
Inverkeithing,	4	3	1	0	18	7	2,995	3	4	Stirling,	96	13	4	...	44,332	13	1
Kilrenny,	4	9	10	1	0	2	3,240	3	4		1,000	0	0	...	458,609	1	9
Kinghorn,	4	13	11	1	1	1	3,385	15	7	31. Sutherland—							
Kirkcaldy,	38	4	2	8	11	0	27,567	7	3	Landward part,	247	7	2	...	56,139	9	0
Newburgh,	5	12	3	1	5	2	4,047	0	5	Dornoch,	2	12	10	...	599	0	0
Pittenweem,	6	8	11	1	8	10	4,653	3	1		250	0	0	...	56,738	9	0
St. Andrews,	26	6	2	5	17	9	18,978	11	0	32. Wigtown—							
	1050	0	0	235	0	0	757,555	17	3	Landward part,	314	17	4	...	178,273	16	4
14. Forfar—								Stranraer,	21	10	11	...	12,197	11	6
Landward part,	1072	7	8	...			493,582	8	7	Wigtown,	9	0	5	...	5,107	15	8
Arbroath,	78	3	4	...			35,977	0	0	Whithorn,	4	11	4	...	2,586	8	6
Brechin,	35	2	11	...			16,177	16	4		350	0	0	...	198,165	12	0
Dundee,	504	1	2	...			232,000	9	6	33. Zetland—							
Forfar,	34	6	8	...			15,803	3	0	Landward part,	160	0	0	76	5	9	28,113	4	8
Montrose,	75	18	3	...			34,939	19	1		160	0	0	76	5	9	28,113	4	8
	1800	0	0	...			828,480	16	6										
15. Haddington—																			
Landward part,	364	18	4	...			269,724	19	4										
Haddington,	16	7	0	...			12,085	14	3										
Dunbar,	12	18	10	...			9,566	10	2										
North Berwick,	5	15	10	...			4,280	7	0										
	400	0	0	...			295,657	10	9	Total,	32,853	3	5	3,301	1	2	14,133,488	0	9

No. XXIII.—Tables containing Classified Statements of the Current E

1. Abstract of Returns of Expenditure under the Prison Boards of the several Counties, char

COUNTIES.	NAMES OF PRISONS.	Expenditure for the Year ended 30th June 1864. For Prisons.	For Sick and Insane Prisoners boarded out.	For Prisoners from each County in Prisons of other Counties.	For General Management.	For Retired Allowances.	For Interest.	Ex
1	2	3	4	5	6	7	8	
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
1. Aberdeen .	Aberdeen .	1,381 13 0						
	Peterhead .	125 6 9						
	Huntly . .	33 9 1½	...	...	128 18 7	123 18 0	23 6 9	1,8
	Fraserburgh .	26 17 8						
2. Argyle .	Inveraray .	242 12 7						
	Campbeltown	254 4 0¼						
	Lochgilphead .	60 16 2	...	0 16 2	57 10 8	...	...	6
	Tobermory .	52 12 9¾						
3. Ayr . .	Ayr . .	2,135 19 1						
	Kilmarnock .	364 19 3	...	0 6 0	77 6 10	...	6 15 11	2,5
4. Banff . .	Banff . .	306 10 6						
	Cullen . .	1 1 0	...	...	59 2 5	...	...	3
	Keith . .	19 10 5						
5. Berwick .	Greenlaw .	256 0 3						
	Dunse . .	54 9 9						
	Lauder . .	1 5 9	...	...	37 15 4	...	...	3
	Earlston .	2 15 7						
6. Bute . .	Rothesay .	251 8 6	...	...	15 0 0	20 0 0	...	2
7. Caithness .	Wick . .	225 8 9½	...	...	25 0 0	...	...	2
8. Clackmannan	Alloa . .	347 9 6	...	...	37 14 6	...	...	3
9. Dumbarton .	Dumbarton .	346 7 11						
	Kirkintilloch .	28 3 9	...	...	28 0 0	...	...	4
	Helensburgh .	30 7 7						
10. Dumfries .	Dumfries .	544 12 8	...	...	27 10 8	...	...	5
11. Edinburgh .	Edinburgh .	6,010 1 3½						
	Court Buildings	173 3 1						
	Canongate .	0 6 9	...	...	361 10 1	208 10 0	27 0 5	6,85
	Musselburgh .	72 7 4						
12. Elgin . .	Elgin . .	365 7 5⅔						
	Forres . .	23 11 0	7 4 0	29 11 2	26 8 5	...	1 0 8	4
13. Fife . .	Cupar . .	717 17 8						
	Dunfermline .	385 14 7	...	0 18 2	91 2 4	15 0 0	8 1 3	1,2
14. Forfar* .	Arbroath .	14 19 0						
	Brechin . .	11 11 9						
	Dundee . .	1,764 12 1	2 15 6	5 6 4	138 13 3	37 3 4	...	2,3
	Forfar . .	375 2 2⅓						
	Montrose .	16 4 6						
15. Haddington	Haddington .	418 13 1						
	Dunbar .	32 14 8	...	...	35 8 8	10 0 0	...	4
16. Inverness .	Inverness .	641 10 3						
	Fort-William .	125 17 7½						
	Portree . .	122 3 1½	...	0 3 0	54 8 5	...	...	1,0
	Lochmaddy .	110 8 2½						
17. Kincardine .	Stonehaven .	204 11 9	...	...	26 1 0	...	...	2
18. Kinross . .	Kinross . .	125 11 10½	...	...	12 0 0	...	...	1
19. Kirkcudbright	Kirkcudbright	312 13 2						
	Maxwelltown	38 14 0	2 0 7	...	35 6 0	...	...	3
20. Lanark . .	Glasgow . .	10,606 3 0						
	Airdrie . .	802 18 0						
	Hamilton .	698 14 5	...	3 8 7	355 4 8	81 0 0	145 9 10	13,0
	Lanark . .	329 5 1						
	Carry forward,	31,594 19 4½	12 0 1	40 9 5	1,630 1 10	495 11 4	211 14 10	33,9

* The County Board further expended a sum of £81, 10s. 11d. for removing prisoners from Arbroath, Brechin, and Montrose, to the Prisons of Forfar; as also £4, 0s. 11d. for expenses connected with Lunacy Board; together, £85, 11s. 10d.

eral Prisons in Scotland, for the Year ended on **30th June 1864.** No. XXIII.

neral Fund for Current Annual Expenses, for the Year ended **30th June 1864.**

COUNTIES.	NAMES OF PRISONS.	Expenditure for the Year ended 30th June 1864. For Prisons.	For Sick and Insane Prisoners boarded out.	For Prisoners from each County in Prisons of other Counties.	For General Management.	For Retired Allowances.	For Interest.	Total Expenditure.
1	2	3	4	5	6	7	8	9
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
	Brought forward,	31,594 19 4½	12 0 1	40 9 5	1,630 1 10	495 11 4	211 14 10	33,984 16 10½
Linlithgow	Linlithgow	327 14 1	...	...	46 7 6	...	...	374 1 7
Nairn	Nairn	113 0 8	...	...	15 0 0	...	...	128 0 8
Orkney	Kirkwall	115 7 2½	...	...	33 4 6	5 0 0	...	153 11 8½
Peebles	Peebles	169 6 11	...	...	25 13 3	...	...	195 0 2
Perth	Perth	974 13 1	...	...	62 2 0	...	...	1,164 1 2½
	Dunblane	127 6 1½						
Renfrew	Paisley	1,732 19 11	...	23 8 1	137 15 11	...	8 5 0	2,547 13 3
	Greenock	582 13 4						
	Pollockshaws	62 11 0						
Ross and Cromarty	Dingwall	223 12 11	...	...	184 0 10	...	...	626 6 7
	Tain	92 12 1						
	Cromarty	40 14 11						
	Stornoway	85 5 10						
Roxburgh	Jedburgh	506 14 4½	...	...	58 4 7	7 0 0	10 19 10	665 15 2½
	Hawick	48 18 8						
	Kelso	33 17 9						
Selkirk	Selkirk	197 19 5	...	...	29 3 0	...	...	227 2 5
Stirling	Stirling	1,091 14 1¾	...	...	52 16 2	26 7 6	...	1,235 1 2¼
	Falkirk	64 3 4¼						
Sutherland	Dornoch	246 9 7½	...	...	24 2 6	14 0 0	1 1 1	285 13 2½
Wigtown	Stranraer	253 17 5	...	...	59 7 5	...	...	512 3 11½
	Wigtown	198 19 1½						
Zetland	Fort-Charlotte	187 4 1	...	...	16 19 8	...	...	204 3 9
	Total,	39,072 15 5¼	12 0 1	63 17 6	2,374 19 2	547 18 10	232 0 9	42,303 11 9¼

No. XXIV.—ABSTRACT of Returns of Expenditure under the Prison Boards of the Several Counties in Scotland, chargeable on the Special Fund for Building, Altering, and Repairing Local Prisons, in the year ended 30th June 1864.

COUNTIES.	PRISONS.	Expenditure for the Year ended 30th June 1864. For Prisons.	For Interest.	For Stamps.	Total.
1.	2.	3.	4.	5.	6.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.
1. Aberdeen	Aberdeen	46 11 2			
	Peterhead	2 17 1	...	...	51 6 2
	Huntly	1 10 2			
	Fraserburgh	0 7 9			
2. Banff	Banff	17 12 11	...	...	17 12 11
3. Berwick	Dunse	23 16 8	...	...	23 16 8
4. Forfar	Dundee	932 13 4	...	...	958 8 10
	Forfar	25 15 6			
5. Haddington	Dunbar	299 18 11	...	...	299 18 11
6. Lanark	Glasgow	478 14 3			
	Hamilton	75 19 3	...	...	663 12 4
	Airdrie	108 18 10			
7. Renfrew	Paisley	198 0 4			
	Greenock	162 6 0	...	...	387 5 0
	Pollockshaws	26 18 8			
8. Roxburgh	Jedburgh	1 1 6	...	...	7 11 6
	Hawick	6 10 0			
	Total,	2,409 12 4		...	2,109 12 4

2. Classification of the Current Expenditure (exclusive of Labour Account) in each Prison in Scotland, for the Year ended 30th June 1864.

COUNTIES.	PRISONS.	Salaries and Wages.	Furniture, Fittings, and Utensils.	Prison Diet.	Contingent Alimentary Charges.	Clothing.	Bedding.	Lighting.	Fuel.	General Contingent Charges, including ordinary Current Repairs not Charged against the Building Fund.	TOTAL.
1	2	3	4	5	6	7	8	9	10	11	12
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1. Aberdeen	Aberdeen	863 8 0	7 9 9	220 5 9	7 0 9	42 5 11	11 0 7	49 19 8	69 14 6	110 8 1	1,381 13 0
	Peterhead	65 0 0	0 5 0	14 5 11½	...	3 14 0½	0 13 10	4 17 9	16 13 1	19 17 1	125 6 9
	Huntly	15 3 0	0 8 6	1 18 6	...	...	0 10 0	1 3 10	10 6 0	3 19 3½	33 9 1½
	Fraserburgh	17 2 0	0 13 6	2 7 0	0 1 11	...	2 2 0	0 17 3	1 6 6	2 7 6	26 17 8
2. Argyle	Inveraray	153 4 0	...	41 13 4	0 10 0	5 0 0	...	9 12 8	17 8 10	15 3 9	242 12 7
	Campbeltown	126 14 2½	12 6 11½	55 16 10¾	4 12 6	4 10 0	3 10 0	7 14 10	28 9 1½	10 9 6	254 4 0½
	Lochgilphead	43 3 0	...	3 3 10	0 3 4	0 9 7	...	2 8 4	9 0 0	2 8 1	60 16 2
	Tobermory	33 0 0	...	4 14 11¾	0 5 0	1 8 0	1 9 0	1 6 10	9 9 0	1 0 0	52 12 9¾
3. Ayr	Ayr	788 19 7	...	594 19 4	36 15 0	203 17 2	7 8 0	64 11 6	78 3 7	361 4 11	2,135 19 1
	Kilmarnock	177 12 0	2 18 3	79 4 0	4 0 10	16 4 6	8 3 9	9 9 6	17 1 8	50 4 9	364 19 3
4. Banff	Banff	159 7 2	9 14 4	53 3 10	0 13 9	13 17 2½	3 3 6	10 18 9	19 18 5	35 13 6½	306 10 6
	Cullen	1 1 0	...	...	...	...	...	...	...	...	1 1 0
	Keith	11 2 0	1 0 6	0 10 2	...	0 10 6	...	...	3 0 0	3 7 3	19 10 5
5. Berwick	Greenlaw	155 11 5½	0 7 6	39 4 3½	2 9 2½	4 8 4½	1 10 7½	8 4 5½	22 1 10¾	22 2 5½	256 0 3
	Dunse	20 0 0	0 12 6	18 3 3	0 2 6	...	...	2 9 5	5 13 4	7 8 9	54 9 9
	Lauder	...	...	...	...	...	...	...	...	1 5 9	1 5 9
	Earlstown	...	...	...	...	...	...	...	...	2 15 7	2 15 7
6. Bute	Rothesay	75 15 0	8 7 0	82 0 7½	10 6 0	19 7 10	3 10 9	9 2 7	23 4 6	19 14 2½	251 8 6
7. Caithness	Wick	115 17 0	4 1 10	52 7 6½	...	7 9 6	5 6 2½	9 8 0	20 16 0½	10 2 8	225 8 9½
8. Clackmannan	Alloa	190 6 0	5 6 0	54 16 6	0 2 10	15 1 7	3 7 5	11 9 6	16 1 6	50 18 2	347 9 6
9. Dumbarton	Dumbarton	221 12 0	2 16 0	67 12 1	2 18 0	12 8 4	3 16 9	9 15 3	17 14 6	7 15 0	346 7 11
	Kirkintilloch	13 2 0	1 4 0	2 18 0	...	...	...	2 11 11	4 1 5	4 6 5	28 3 9
	Helensburgh	17 5 0	0 12 0	3 18 7	...	...	...	2 2 8	2 5 0	4 4 4	30 7 7
10. Dumfries	Dumfries	299 8 0	16 13 2	119 8 4	8 4 5	19 2 6	12 19 3	18 9 0	28 11 6	21 16 6	544 12 8
11. Edinburgh	Edinburgh	2,459 14 9	120 16 5	1,384 16 4	90 17 7½	598 16 5	...	124 1 3	253 17 11	977 0 7	6,010 1 3½
	Court Buildings' Prison	86 5 5	2 13 1	33 2 10	0 10 11	...	...	11 7 4	13 0 10	26 2 8	173 3 1
	Canongate	...	...	...	...	...	...	...	...	0 6 9	0 6 9
	Musselburgh	44 9 2	...	8 4 4	...	0 1 9	...	3 6	4 0 0	12 11 7	72 7 4
12. Elgin	Elgin	181 1 10	4 2 3	65 3 9½	22 11 11½	9 14 9½	8 17 1½	11 14 9	26 0 3	36 0 8½	365 7 5½
	Forres,	15 0 0	...	1 17 0	...	...	2 11 9	0 3 6	0 12 6	3 6 3	23 11 0
13. Fife	Cupar	392 0 0	6 6 1	106 15 1	12 1 0	29 18 5	2 3 9	27 5 9	47 15 2	93 12 5	717 17 8
	Dunfermline	219 10 0	11 6 0	40 15 9	3 14 1	19 1 0	8 12 4	9 19 3	15 16 10	56 19 4	385 14 7
14. Forfar	Arbroath	10 0 0	...	...	...	...	...	...	...	4 19 0	14 19 0
	Brechin	5 5 0	...	...	...	...	...	...	...	6 6 9	11 11 9
	Dundee	771 8 8	40 0 0	207 14 10	18 2 6	...	...	...	...	...	...

	Portree	80	0	0	1	10	6	5	18	10½	0	4	0	1	6	7½	0	6	9	2	17	4	8	2	0	21	17	0¼	122	3	1¼
	Lochmaddy	78	1	8	0	16	8	5	7	0	0	9	7	1	7	11	0	8	8	2	8	0	8	17	1½	12	11	7	110	8	2½
17. Kincardine	Stonehaven	138	8	11	1	17	8	23	17	7	0	7	10	0	15	10	0	3	9	3	14	5	11	13	1	23	18	1	204	11	9
18. Kinross	Kinross	72	0	0	2	4	6	20	4	2½	0	15	6	4	12	5¼	4	8	0¼	3	13	7½	9	4	10½	8	8	8½	125	11	10½
19. Kirkcudbright	Kirkcudbright	213	4	0	0	3	4	44	18	1½		...		3	18	5½	0	12	0	8	8	0	17	10	4	23	18	11	312	13	2
	Maxwelltown	25	0	0		...		2	8	5		...		0	1	6		..		0	5	0	6	3	9	4	15	4	38	14	0
20. Lanark	Glasgow	3,559	10	10	282	5	1	2,545	9	3	200	5	2	1,452	7	7	231	7	10	294	1	0	290	15	5	1,750	0	10	10,606	3	.
	Airdrie	316	16	0	6	3	1½	177	0	4	6	8	3	82	4	5½	11	1	8	25	10	7½	25	13	5	152	0	1½	802	18	0
	Hamilton	309	16	0	13	19	0	133	5	7	5	18	8	28	14	9	1	0	0	18	19	6	25	11	9½	161	9	1½	698	14	5
	Lanark	194	16	10	2	17	3½	43	7	9	0	8	8	7	16	1	0	10	6	9	14	1½	22	16	5	46	17	5	329	5	1
21. Linlithgow	Linlithgow	191	9	6		...		55	8	1	3	1	7	4	17	3	2	15	4	8	0	9	12	9	6	49	12	1	327	14	1
22. Nairn	Nairn	68	0	0		...		14	11	8		...		1	0	6	3	0	0	4	9	0	10	3	9	11	15	9	113	0	8
23. Orkney	Kirkwall	100	8	0		...		8	3	6	2	3	6½	0	9	6		...		1	13	0	0	19	7	1	10	1	115	7	2½
24. Peebles	Peebles	90	0	0	7	13	6	23	19	11		...			...		0	8	10	5	12	6	21	18	11	19	13	3	169	6	11
25. Perth	Perth	553	2	6	6	18	4	213	0	10	27	1	3	40	4	1¾	16	7	1	28	9	2	41	15	10½	47	13	10½	974	13	1
	Dunblane	83	0	0		...		15	11	6½		...		0	5	10	1	17	2	3	11	3	9	9	7½	13	10	8½	127	6	1½
26. Renfrew	Paisley	647	17	0	46	5	6	418	14	11	29	19	8	208	19	6	27	0	6	66	6	3	68	17	8	223	18	11	1,732	19	11
	Greenock	289	6	8	19	4	2	117	8	6	4	5	9	27	12	0	3	4	2	16	8	9	32	8	4	72	15	0	582	13	4
	Pollockshaws	30	0	0		...		9	15	9		...			...			...		2	13	0	5	3	3	14	19	0	62	11	0
27. Ross and Cromarty	Dingwall	130	0	0	8	14	1	30	8	11	3	16	2	3	17	6	0	8	4	6	8	9	27	19	0	12	0	2	223	12	11
	Tain	40	0	0		...		15	6	9	1	11	10	1	1	0	0	11	6	3	16	11	15	13	6	14	10	7	92	12	1
	Cromarty	31	10	0	0	16	0	0	3	7		...			...			...		1	8	3	5	14	5	1	2	8	40	14	11
	Stornoway	43	6	0	0	2	10	14	3	4	1	1	6	0	5	2	0	7	6	9	1	4	5	6	2	11	12	0	85	5	10
28. Roxburgh	Jedburgh	297	12	4	0	17	4	60	4	7½	0	15	9	17	15	6	8	18	0	14	13	3	36	19	6	68	18	1	506	14	4½
	Hawick	21	0	0		...		3	6	4	0	8	1		...			...		2	11	5	6	12	11	14	19	11	48	18	8
	Kelso	15	0	0		...		2	14	2½		...			...			...		1	15	4	4	10	0	9	18	2½	38	17	9
29. Selkirk	Selkirk	107	1	0	2	4	2	19	1	6	0	17	3½	3	4	5	4	2	1	4	16	0	11	3	8½	45	9	3	197	19	5
30. Stirling	Stirling	528	14	7¼	5	1	7	224	0	3¾	7	13	8½	72	2	9¼	20	18	2	53	9	11	67	8	11½	112	4	1½	1,091	14	1¾
	Falkirk	40	0	0	0	3	3	7	18	6½		...			...		0	4	0	1	10	4	4	1	8	10	5	7	64	3	4½
31. Sutherland	Dornoch	88	16	10	1	13	10	12	0	5½	0	4	1	4	9	10	1	0	1	9	2	8	25	17	6	103	4	4	246	9	7½
32. Wigtown	Stranraer	126	16	0	1	7	7	30	12	5	0	10	1	6	12	10½	2	12	9	5	2	5½	11	14	7	68	8	8	253	17	5
	Wigtown	93	18	0	1	12	5½	44	13	9¾	0	6	11½	4	3	10½	2	9	6	5	10	11	15	12	7½	30	10	11¾	198	19	1½
33. Zetland,	Fort-Charlotte	95	6	0	42	2	2	15	9	5	0	2	6	4	16	4	4	6	9	3	15	6	8	8	1	12	17	4	187	4	1
		17,344	15	8¾	779	15	6½	8,182	3	8¾	539	17	10½	3,220	6	3¼	492	0	2¾	1,168	18	9½	1,803	18	11½	5,540	18	3¾	39,072	15	5¼
25. Perth	General Prison	6,718	17	7	274	3	7	4,438	11	9	398	19	0	1,330	2	3	195	15	7	315	1	5	668	6	4	1,587	2	8	15,927	0	2
	Total,	24,063	13	3¾	1,053	19	1½	12,620	15	5¾	938	16	10½	4,550	8	6¼	687	15	9¾	1,484	0	2½	2,472	5	3½	7,128	0	11¾	54,999	15	7¼

(No. XXIII. *Continued.*)

(No. XXIII. *Continued.*)

3. AVERAGE EARNINGS

Comparative Statement of the Total Number of Criminal Prisoners confined in each of the Pris
each such Prisoner; and the Daily Average Number of such Prisoners; as also of their A

COUNTIES.	PRISONS.	Total Number in Confinement during the Year.	Average Duration of Confinement of each Criminal Prisoner. Days.	Average Daily Number in Custody entered to the nearest Unit.	Average Cost per Prisoner for the Year ended 30th June 186				
					Salaries and Wages.	Prison Diet.	Clothing.	Bedding.	I
1	2	3	4	5	6	7	8	9	
					£ s. d.	£ s. d.	£ s. d.	£ s. d.	£
1. Aberdeen	Aberdeen	1,008	17	48	17 19 9	4 11 9	0 17 7	0 4 7	
2. Argyle	Inveraray	98	30	8	19 3 0	5 4 2	0 12 6	...	
	Campbeltown	126	32	11	11 10 5	5 1 7	0 8 2	0 6 4	
3. Ayr	Ayr	529	68	99	7 19 4	6 0 2	2 1 2	0 1 6	
	Kilmarnock	268	22	16	11 2 0	4 19 0	1 0 3	0 10 3	
4. Banff	Banff	100	33	9	17 14 2	5 18 2	1 10 10	0 7 1	
5. Berwick	Greenlaw	79	32	7	22 4 6	5 12 1	0 12 8	0 4 5	
6. Bute	Rothesay	153	22	9	8 8 4	9 2 4	2 3 1	0 7 10	
7. Caithness	Wick	96	27	7	16 11 0	7 9 8	1 1 4	0 15 2	
8. Clackmannan	Alloa	120	24	8	23 15 9	6 17 1	1 17 8	0 8 5	
9. Dumbarton	Dumbarton	357	13	13	17 0 11	5 4 0	0 19 1	0 5 11	
10. Dumfries	Dumfries	604	15	25	11 19 6	4 15 6	0 15 4	0 10 4	
11. Edinburgh	Edinburgh Court Buildings' Prison	6,085	23	382	6 12 3 8 12 7	3 14 5 3 6 3	1 12 2 ...	...	
12. Elgin	Elgin	168	31	14	12 18 8	4 13 2	0 13 11	0 12 8	
13. Fife	Cupar	332	25	23	17 0 10	4 12 10	1 6 0	0 1 11	
	Dunfermline	159	21	9	24 7 9	4 10 10	2 2 4	0 19 2	
14. Forfar	Dundee	1,377	22	83	9 5 11	4 15 9	1 17 0	0 7 3	
	Forfar	195	32	17	11 18 11	4 12 11	0 6 6	0 4 1	
15. Haddington	Haddington	236	20	13	14 13 10	6 0 7	2 2 1	0 6 6	
16. Inverness	Inverness	157	42	18	21 2 6	5 14 2	1 9 0	0 14 4	
17. Kincardine	Stonehaven	80	23	5	27 13 10	4 15 6	0 3 2	0 0 9	
18. Kinross	Kinross*	38	19	2	...	...	...	...	
19. Kirkcudbright	Kirkcudbright	147	22	9	23 13 9	4 19 9	0 8 9	0 1 4	
20. Lanark	Glasgow	6,969	27	531	6 14 1	4 15 10	2 14 8	0 8 9	
	Airdrie	1,060	16	46	6 17 9	3 17 0	1 15 9	0 4 10	
	Hamilton	554	19	29	10 13 8	4 11 11	0 19 10	0 0 8	
	Lanark	191	19	10	19 9 8	4 6 9	0 15 7	0 1 1	
21. Linlithgow	Linlithgow	177	27	13	14 14 7	4 5 3	0 7 6	0 4 3	
22. Nairn	Nairn	41	18	2	...	...	...	...	
23. Orkney	Kirkwall*	18	...	...	...	...	...	...	
24. Peebles	Peebles*	73	15	3	...	...	...	...	
25. Perth	Perth	672	27	50	11 1 3	4 5 3	0 16 1	0 6 7	
	Dunblane	62	18	3	...	...	...	...	
26. Renfrew	Paisley	1,344	27	100	6 9 7	4 3 9	2 0 10	0 5 5	
	Greenock	931	11	27	10 14 4	4 7 0	1 0 5	0 2 5	
27. Ross and Cromarty	Dingwall	71	31	6	21 13 4	5 1 6	0 12 11	0 1 5	
28. Roxburgh	Jedburgh	199	22	12	24 16 0	5 0 5	1 9 8	0 14 10	
29. Selkirk	Selkirk*	91	16	4	...	...	...	...	
30. Stirling	Stirling	611	28	47	11 5 0	4 15 4	1 10 8	0 8 11	
31. Sutherland	Dornoch*	18	41	2	...	...	...	...	
32. Wigtown	Stranraer	64	34	6	21 2 8	5 2 1	1 2 2	0 8 10	
	Wigtown	84	39	9	10 8 8	4 19 4	0 9 4	0 5 6	
33. Zetland	Fort-Charlotte*	39	9	1	...	...	...	...	
25. Perth	General Prison	1,227	211	709	9 9 6	6 5 2	1 17 6	0 5 6	
In Scotland	Whole Prisons	28,216	32	2,466	9 15 2	5 2 4	1 16 11	0 5 7	

* In the Prisons marked with an asterisk the average number of Prisoners in custody was under five.

(No. XXIII. *Continued.*)

T PER HEAD FOR THE YEAR.

ich the Average Daily Number in Custody is Five or upwards; the Average Duration of Confinement of arly Cost per Head, and Average Earnings, all for the Year ended **30th June 1864.**

uel.	Gross Cost per Head, including all Expenses.	Average Earnings per Head available for Prison.	Nett Cost per Head after deducting Earnings.	Earnings of Prisoners who have been in Confinement for Periods of Six Months, or upwards, (under Sentence.)			PRISONS.	COUNTIES.
				Average Daily Number of such Prisoners.	Total Earnings.	Average Earnings.		
11	12	13	14	15	16	17	2	1
s. d.	£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.		
9 1	28 15 8	3 3 8	25 12 0	1	7 8 5	7 8 5	Aberdeen	1. Aberdeen
3 7	30 6 7	1 11 0	28 15 7	...	...	...	Inveraray	2. Argyle
11 9	23 2 2	2 1 3	21 0 11	...	...	...	Campbeltown	
15 9	21 11 6	1 8 4	20 3 2	94	110 3 4	1 3 5	Ayr	3. Ayr
1 4	22 16 2	2 7 4	20 8 10	...	...	...	Kilmarnock	
4 3	34 1 2	3 15 11	30 5 3	1	1 3 8	1 3 8	Banff	4. Banff
3 2	36 11 6	0 14 8	35 16 10	...	...	...	Greenlaw	5. Berwick
11 7	27 18 9	1 15 7	26 3 2	1	3 15 0	3 15 0	Rothesay	6. Bute
19 5	32 4 1	1 5 6	30 18 7	...	...	...	Wick	7. Caithness
0 2	43 8 8	2 8 5	41 0 3	...	...	...	Alloa	8. Clackmannan
7 3	26 12 11	2 0 1	24 12 10	1	2 12 3	2 12 3	Dumbarton	9. Dumbarton
2 10	21 15 8	4 9 6	17 6 2	4	19 2 0	4 15 6	Dumfries	10. Dumfries
13 8	16 3 2	2 7 2	13 16 0	26	69 19 3	2 13 9	Edinburgh	11. Edinburgh
6 1	17 6 4	...	17 6 4	...	...	...	Court Buildings' Prison	
17 2	26 2 0	5 9 9	20 12 3	...	...	...	Elgin	12. Elgin
1 6	31 4 3	3 6 1	27 18 2	...	...	...	Cupar	13. Fife
15 2	42 17 2	3 9 5	39 7 9	...	...	...	Dunfermline	
15 2	21 5 2	4 0 6	17 4 8	7	34 3 1	4 17 7	Dundee	14. Forfar
5 0	22 1 4	4 15 11	17 5 5	2	11 10 2	5 15 1	Forfar	
14 2	32 4 1	3 9 9	28 14 4	...	...	...	Haddington	15. Haddington
14 8	35 12 9	13 9 11	22 2 10	4	47 5 5	11 16 4	Inverness	16. Inverness
6 7	40 18 4	2 4 6	38 13 10	...	...	...	Stonehaven	17. Kincardine
...	...	...	...	...	...	...	Kinross	18. Kinross
18 11	34 14 10	2 1 11	32 12 11	...	...	...	Kirkcudbright	19. Kirkcudbright
10 11	19 19 6	2 3 4	17 16 2	51	290 7 2	5 13 10	Glasgow	20. Lanark
11 2	17 9 1	2 16 5	14 12 8	2	7 11 8	3 15 10	Airdrie	
17 8	24 1 10	2 10 1	21 11 9	2	15 12 0	7 16 0	Hamilton	
5 7	32 18 6	2 16 9	30 1 9	...	...	...	Lanark	
19 2	25 4 2	4 12 4	20 11 10	1	4 14 10	4 14 10	Linlithgow	21. Linlithgow
...	...	...	...	...	...	...	Nairn	22. Nairn
...	...	...	...	...	...	...	Kirkwall	23. Orkney
...	...	...	...	...	...	...	Peebles	24. Peebles
16 9	19 9 10	3 4 7	16 5 3	4	14 16 0	3 14 0	Perth	25. Perth
...	...	...	...	...	...		Dunblane	
13 9	17 6 7	2 6 5	15 0 2	13	58 10 0	4 10 0	Paisley	26. Renfrew
4 0	21 11 7	2 4 6	19 7 1	...	...	...	Greenock	
13 2	36 14 5	6 13 0	30 1 5	...	...	...	Dingwall	27. Ross and Cromarty
1 8	42 4 6	4 8 1	37 16 5	1	7 0 0	7 0 0	Jedburgh	28. Roxburgh
...	...	...	...	...	...	...	Selkirk	29. Selkirk
8 8	23 4 7	2 4 2	21 0 5	5	17 3 4	3 8 8	Stirling	30. Stirling
...	...	...	...	...	...		Dornoch	31. Sutherland
19 1	42 6 3	3 18 11	38 7 4	...	...	...	Stranraer	32. Wigtown
14 9	22 2 2	1 0 9	21 1 5	...	...	...	Wigtown	
...	...	...	...	...	...	...	Fort-Charlotte	33. Zetland
18 10	*22 9 8	3 3 9	*19 5 6	†678	2,260 17 9	3 6 8	General Prison	25. Perth
0 1	22 6 1	2 15 5	19 10 8	898	2,983 15 4	3 6 5	Whole Prisons	In Scotland

* Includes Travelling Expenses of Prisoners on their liberation, averaging 3s. 10d. per head.

† Exclusive of Inmates of Department for Criminal Lunatics.

(No. XXIII. *Continued.*)

4. VIEW of the OUTLAY connected with the Prisoners' Labour in the several Priso

COUNTIES.	PRISONS.	DEBTOR. Undisposed-of Goods and Materials, and Implements of Labour, on hand at 30th June 1863.	DEBTOR. Outlay this Year for Materials, Implements, Carriage of Goods, &c.	DEBTOR. Loss by Bad Debts.	DEBTOR. Sum of Debit.	CREDITOR. Sales and Deliveries of Work to Purchasers and Employers.	CREDITOR. Furni and G issue the u the Pr other Imple of La
1	2	3	4	5	6	7	8
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s
1. Aberdeen	Aberdeen	44 12 0	79 9 1	...	124 1 1	175 7 6	...
	Peterhead	2 19 1	10 15 1	...	13 14 2	11 16 6	...
2. Argyle	Inveraray	9 19 0	7 10 10	...	17 9 10	8 1 11	...
	Campbeltown	2 10 0	10 2 0	...	12 12 0	14 0 0	...
	Lochgilphead	0 18 8	1 13 0	...	2 11 8	0 15 6	...
	Tobermory	0 10 0	...	...	0 10 0	...	...
3. Ayr	Ayr	69 0 0	116 8 5	...	185 8 5	156 14 0	...
	Kilmarnock	54 13 4	36 1 5	...	90 14 9	65 19 5	0 10
4. Banff	Banff	30 0 0	45 15 4	...	75 15 4	75 2 7	...
5. Berwick	Greenlaw	8 18 10¾	3 2 2	...	12 1 0¾	9 14 8	...
6. Bute	Rothesay	...	...	...	...	4 18 1	...
7. Caithness	Wick	48 5 3	...	...	48 5 3	2 17 6	5 3
8. Clackmannan	Alloa	8 5 0	10 17 10	...	19 2 10	24 17 10½	5 12
9. Dumbarton	Dumbarton	5 10 2	35 16 0	...	41 6 2	48 4 6	1 16
10. Dumfries	Dumfries	2 0 0	21 17 3	...	23 17 3	45 10 1½	4 0
11. Edinburgh	Edinburgh	360 11 6½	490 16 9	...	851 8 3½	677 12 11½	83 11
12. Elgin	Elgin	48 13 10	97 9 10½	...	146 3 8½	109 10 3½	7 3
13. Fife	Cupar	40 0 0	19 15 7	5 0 0	64 15 7	78 6 5	...
	Dunfermline	14 0 0	9 12 11	...	23 12 11	26 14 8	0 7
14. Forfar	Dundee	42 11 3	8 3 3	...	50 14 6	247 17 2	28 6
	Forfar	11 4 1	10 10 4	...	21 14 5	80 11 11	...
15. Haddington	Haddington	5 15 6	36 2 10	...	41 18 4	46 13 6½	0 10
16. Inverness	Inverness	341 4 7½	451 15 1	6 0 0	798 19 8½	592 8 10½	1 12
	Fort-William	3 10 8	1 6 1	...	4 16 9	7 11 0	0 2
	Portree	3 2 9	5 17 10	...	9 0 7	3 15 9	0 7
	Lochmaddy	1 8 0	...	...	1 8 0	0 10 0	0 16
17. Kincardine	Stonehaven	...	5 12 9	...	5 12 9	13 12 6	...
18. Kinross	Kinross	9 12 10	...	...	9 12 10	5 1 6	...
19. Kirkcudbright	Kirkcudbright	82 6 2	44 15 0	...	127 1 2	16 2 0	7 1
20. Lanark	Glasgow	393 19 0	839 19 3	...	1,233 18 3	1,048 18 7	...
	Airdrie	4 0 0	138 10 8½	...	142 10 8½	200 7 10	...
	Hamilton	13 17 0	6 2 5	1 5 0	21 4 5	48 13 3	...
	Lanark	17 10 0	1 19 10	...	19 9 10	14 5 3	...
21. Linlithgow	Linlithgow	19 12 2	46 18 6	...	66 10 8	87 18 9	4 2
22. Nairn	Nairn	0 10 0	0 10 0	...	1 0 0	1 5 0	...
23. Orkney	Kirkwall	0 10 0	...	...	0 10 0	0 3 10	...
24. Peebles	Peebles	30 13 11	17 15 11	...	48 9 10	27 2 4	...
25. Perth	Perth	...	10 0 6½	...	10 0 6½	98 2 3	...
	Dunblane	...	...	...	...	2 16 8	...
26. Renfrew	Paisley	156 5 8	118 11 6½	...	274 17 2½	140 15 8½	42 8
	Greenock	39 2 10	92 8 10	...	131 11 8	125 15 8	...
27. Ross & Cromarty	Dingwall	1 17 4	16 15 8½	...	18 13 0½	9 18 6	...
28. Roxburgh	Jedburgh	28 12 6	1 19 6	...	30 12 0	10 16 2	4 0
29. Selkirk	Selkirk	27 10 10½	12 8 3½	...	39 19 2	28 0 8½	0 9
30. Stirling	Stirling	52 2 0	104 18 0	...	157 0 0	146 13 2½	5 1
31. Sutherland	Dornoch	23 0 5	10 15 8	...	33 16 1	13 1 3	0 16
32. Wigtown	Stranraer	11 7 0	12 3 8	...	23 10 8	5 14 2	2 18
	Wigtown	13 1 7	42 11 11	...	55 13 6	25 11 5	3 14
33. Zetland	Fort-Charlotte	11 1 0	3 8 6½	...	14 9 6½	18 2 6	...
		2,096 15 10¾	3,039 5 6¾	12 5 0	5,148 6 5½	4,604 11 9	210 1
25. Perth	General Prison,	1,324 17 5	3,089 19 8	...	4,414 17 1	3,487 17 4	1,108 1
	TOTAL,	3,421 13 3¾	6,129 5 2¾	12 5 0	9,563 3 6½	8,092 9 1	1,319

(No. XXIII.)
Continued.

Scotland, and of the Returns therefrom, in the Year ended **30th June 1864.**

| CREDITOR. | | |

No. XXV.—TRIENNIAL COMPARISON OF AVER

Comparative Statement of the Average Daily Number of Criminal Prisoners in the P
and of their Average Yearly Cost per Head, and A

COUNTIES.	PRISONS.	Average Daily Number in Custody.	Average Yearly Cost per Head in the three Years ended											
			Salaries and Wages.			Prison Diet.			Clothing.			Bedding.			Ligh		
1	2	3	4			5			6			7					
			£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s	
1 Aberdeen .	Aberdeen . .	51	17	7	5	4	17	4	0	17	7	0	4	4	1	3	
2. Argyle .	Inveraray . .	7	23	17	10	5	8	5	0	17	10	0	1	8	1	13	
	Campbeltown .	9	13	18	0	5	8	8	0	9	5	0	6	10	0	13	
3. Ayr . .	Ayr . . .	60	11	14	9	5	16	2	1	16	8	0	1	6	0	16	
	Kilmarnock .	16	10	18	2	5	9	11	1	0	3	0	7	6	0	12	
4. Banff . .	Banff . . .	9	14	18	7	6	8	9	1	1	7	0	7	3	1	0	
5. Berwick .	Greenlaw . .	7	21	11	0	7	1	3	1	18	8	0	13	5	0	19	
6. Bute . .	Rothesay . .	7	11	9	1	9	17	11	3	0	7	0	14	0	1	4	
7. Caithness .	Wick . . .	7	16	15	7	7	12	6	0	17	0	0	14	10	1	8	
8. Clackmannan	Alloa . . .	7	29	11	3	8	11	7	2	1	7	0	9	0	1	14	
9. Dumbarton .	Dumbarton . .	15	15	14	6	5	6	4	0	17	11	0	5	0	0	12	
10. Dumfries .	Dumfries . .	26	11	10	6	4	19	9	0	13	1	0	7	4	0	15	
11. Edinburgh .	Edinburgh . . }	367	6	16	5	3	19	3	1	15	8		...		0	7	
	Court Buildings . }		8	6	8	3	16	3		...			...		1	2	
12. Elgin . .	Elgin . . .	12	13	5	1	4	12	10	0	14	2	0	12	9	0	17	
13. Fife . .	Cupar . . .	22	18	0	11	5	3	4	0	18	4	0	1	11	1	2	
	Dunfermline .	7	31	1	9	5	1	2	1	2	3	0	12	7	1	5	
14. Forfar . .	Dundee . .	76	9	15	6	4	17	2	1	7	9	0	6	6	0	12	
	Forfar . .	16	12	19	0	4	18	5	0	8	4	0	5	3	0	13	
15. Haddington .	Haddington .	11	17	1	10	8	4	1	1	7	8	0	6	6	1	2	
16. Inverness .	Inverness . .	16	24	5	2	6	6	5	1	9	3	0	14	4	1	11	
17. Kincardine .	Stonehaven .	5	23	10	9	5	8	4	0	5	2	0	1	5	0	14	
18. Kinross .	Kinross* . .	...		...			...			...			...			..	
19. Kirkcudbright	Kirkcudbright .	10	22	14	8	5	0	2	0	7	6	0	1	1	0	15	
20. Lanark .	Glasgow . .	497	6	19	3	4	19	1	2	11	0	0	9	1	0	11	
	Airdrie . .	37	8	17	5	4	7	9	1	11	7	0	2	11	0	12	
	Hamilton . .	30	10	5	5	4	14	4	1	7	1	0	1	5	0	13	
	Lanark . .	9	21	16	5	4	12	5	0	19	0	0	13	10	0	19	
21. Linlithgow .	Linlithgow . .	17	11	19	8	4	13	0	0	9	7	0	8	0	0	11	
22. Nairn . .	Nairn* . .	...		...			...			...			...			..	
23. Orkney .	Kirkwall* . .	...		...			...			...			...			..	
24. Peebles .	Peebles* . .			...			...			...			...			..	
25. Perth . .	Perth . . .	52	10	14	7	4	15	6	0	17	1	0	6	2	0	11	
26. Renfrew .	Paisley . .	84	7	12	9	4	10	4	1	12	4	0	6	9	0	14	
	Greenock . .	23	12	19	5	4	10	9	1	5	5	0	7	3	0	12	
27. Ross & Cromarty	Dingwall* . .	...		...			...			...			...			..	
28. Roxburgh .	Jedburgh . .	15	19	13	7	5	8	7	1	6	7	0	12	11	1	0	
29. Selkirk . .	Selkirk* . .			...			...			...			...			..	
30. Stirling .	Stirling . .	45	11	10	0	5	5	10	1	5	2	0	6	7	1	5	
31. Sutherland .	Dornoch* . .			...			...			...			...			..	
32. Wigtown .	Stranraer . .	6	19	14	3	5	1	9	0	18	5	0	8	0	1	3	
	Wigtown . .	6	15	11	7	5	11	11	0	11	1	0	3	1	0	11	
33. Zetland .	Fort-Charlotte* .																
25. Perth . .	General Prison .	692	9	2	4	6	10	3	1	13	5	0	5	3	0	9	
In Scot'and .	Whole Prisons .	2,313	10	3	0	5	7	8	1	14	6	0	5	8	0	12	

* In the Prisons marked with an asterisk the Average Number of Prisoners in Custody was under five.

EARLY COST PER HEAD AND EARNINGS. No. XXV.

Scotland in which the Average Daily Number of Prisoners in Custody is Five or upwards; early Earnings in the Three Years ended **30th June 1864.**

e 30, 1864. Fuel.	Gross Cost per Head including all Expenses.	Average Earnings per Head, available for the Prison.	Nett Cost per Head, after deducting Earnings.	Average Earnings of Prisoners who have been in Confinement Six Months, or upwards, under Sentence.	PRISONS.	COUNTIES.
9	10	11	12	13	2	1
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.		
1 12 8	29 3 1	2 14 2	26 8 11	5 13 5	Aberdeen	1. Aberdeen
2 15 6	37 0 4	1 11 4	35 9 0	...	Inveraray	2. Argyle
2 16 2	26 3 2	2 13 8	23 9 6	...	Campbeltown	
0 19 11	25 3 7	1 18 9	23 4 10	3 10 10	Ayr	3. Ayr
1 0 5	22 10 3	2 13 6	19 16 9	...	Kilmarnock	
2 14 6	31 6 5	4 11 1	26 15 4	1 18 11	Banff	4. Banff
3 14 1	39 6 1	0 10 3	38 15 10	...	Greenlaw	5. Berwick
2 19 6	37 8 0	1 16 11	35 11 1	...	Rothesay	6. Bute
2 13 4	31 6 5	1 5 8	30 0 9	...	Wick	7. Caithness
2 17 8	50 10 1	2 17 6	47 12 7	...	Alloa	8. Clackmannan
1 3 6	24 18 1	2 0 7	22 17 6	2 14 4	Dumbarton	9. Dumbarton
1 2 9	21 12 5	4 9 6	17 2 11	...	Dumfries	10. Dumfries
0 14 11	17 13 11	2 11 2	15 2 9	3 2 6	Edinburgh	11. Edinburgh
1 7 11	17 3 11	...	17 3 11	...	Court Buildings	
2 1 1	26 10 11	6 0 1	20 10 10	4 6 11	Elgin	12. Elgin
2 4 11	32 5 7	3 2 1	29 3 6	...	Cupar	13. Fife
2 7 5	50 4 6	3 16 8	46 7 10	...	Dunfermline	
0 15 7	21 10 2	4 4 5	17 5 9	5 13 9	Dundee	14. Forfar
1 11 5	24 19 2	3 13 6	21 5 8	4 1 7	Forfar	
1 17 2	35 14 1	3 8 9	32 5 4	...	Haddington	15. Haddington
1 17 8	40 6 11	13 5 3	27 1 8	7 9 7	Inverness	16. Inverness
1 18 3	34 14 10	2 6 0	32 8 10	...	Stonehaven	17. Kincardine
...	...	...	...	...	Kinross	18. Kinross
1 17 3	33 13 4	1 18 11	31 14 5	...	Kirkcudbright	19. Kirkcudbright
0 11 11	20 16 6	2 10 0	18 6 6	5 17 5	Glasgow	20. Lanark
0 15 5	20 10 7	2 16 1	17 14 6	3 19 6	Airdrie	
0 18 9	24 9 9	2 6 10	22 2 11	5 18 5	Hamilton	
2 10 6	37 0 4	2 14 0	34 6 4	3 1 4	Lanark	
0 16 7	22 15 9	3 7 10	19 7 11	4 7 8	Linlithgow	21. Linlithgow
...	...	...	...	...	Nairn	22. Nairn
...	...	...	...	...	Kirkwall*	23. Orkney
...	...	...	...	...	Peebles*	24. Peebles
0 15 3	19 18 5	3 4 10	16 13 7	4 5 1	Perth	25. Perth
0 17 4	18 18 10	2 13 4	16 5 6	5 0 1	Paisley	26. Renfrew
1 11 4	24 10 3	2 1 6	22 8 9	...	Greenock	
...	...	...	...	...	Dingwall*	27. Ross&Cromarty
2 13 5	35 19 3	3 14 6	32 4 9	2 15 8	Jedburgh	28. Roxburgh
...	...	...	...	...	Selkirk*	29. Selkirk
1 8 6	23 19 7	2 5 0	21 14 7	3 1 7	Stirling	30. Stirling
...	...	...	...	...	Dornoch*	31. Sutherland
1 17 6	39 12 3	3 3 10	36 8 5	...	Stranraer	32. Wigtown
2 2 6	28 3 1	2 10 6	25 12 7	...	Wigtown	
...	...	...	...	...	Fort-Charlotte*	33. Zetland
1 0 0	22 4 0†	3 1 9	19 2 3	3 4 7†	General Prison	25. Perth
1 1 11	23 4 2	2 17 7	20 6 7	3 8 1	Whole Prisons	In Scotland

* Includes travelling expenses of prisoners on their liberation, averaging 3s. 11d. per head.

No. XXVI.

ABSTRACT of the Accounts rendered by County Prison Boards to Exchequer, for maintenance, after conviction, of Criminal Prisoners confined in Local Prisons who had been tried with a Jury, or by the Sheriffs without a Jury, where proceedings were conducted under Sheriffs' Warrants—for the two **Half-Years ended 31st March and 30th September 1863,** respectively, and for previous periods for which Accounts were not rendered at the proper time.

COUNTIES.	For Prisoners tried by Jury.		For Prisoners tried without Jury.		TOTAL.
	Half-Year to 31st March 1863.	Half-Year to 30th Sept. 1863.	Half-Year to 31st March 1863.	Half-Year to 30th Sept. 1863.	
1. Aberdeen,	£14 0 6	£19 8 0	£52 11 3	£22 0 5	£108 0 2
2. Argyle,	19 0 4	19 12 10	18 18 2	25 6 10	82 18 2
3. Ayr,	37 4 2	60 10 6	73 6 9	49 12 3	220 13 8
4. Banff,	9 0 4	24 19 11	20 10 0	6 7 10	60 18 1
5. Berwick,	22 8 11	19 6 1	23 8 4	24 9 4	89 12 8
6. Bute,	19 8 6	8 3 5	23 11 4	13 8 3	64 11 6
7. Clackmannan,	3 0 5	17 14 7	24 8 0	18 19 5	64 2 5
8. Caithness,	.....	.....	.....	.....	.....
9. Dumbarton,	16 3 2	.....	13 4 3	.....	29 7 5
10. Dumfries,	25 3 2	30 11 2	16 2 11	16 18 7	88 15 10
11. Edinburgh,	171 9 0	137 9 8	125 8 10	147 13 9	582 1 3
12. Elgin,	23 2 11	27 18 7	27 1 6	28 5 5	106 8 5
13. Fife,	32 10 3	24 5 7	15 17 9	26 11 10	99 5 5
14. Forfar,	61 4 9	60 14 4	19 2 11	24 0 5	165 2 5
15. Haddington,	1 7 6	3 3 1	33 9 1	28 3 8	66 3 4
16. Inverness,	31 18 7	40 0 8	41 3 8	43 5 4	156 8 3
17. Kincardine,	6 7 1	1 1 6	10 6 2	6 0 7	23 15 4
18. Kinross,	4 8 2	3 14 9	5 0 7	5 11 10	18 15 4
19. Kirkcudbright,	3 19 4	3 7 10	18 18 4	11 4 3	37 9 9
20. Lanark,	465 10 10	353 9 3	130 9 2	121 12 3	1,071 1 6
21. Linlithgow,	16 16 5	17 7 11	18 14 9	7 16 7	60 15 8
22. Nairn,	.....	.....	.....	.....	.....
23. Orkney,	.....	3 13 0	15 9 0	6 1 0	25 3 0
24. Peebles,	1 6 7	13 1 5	13 14 11	6 17 9	35 0 8
25. Perth,	40 19 3	53 1 9	99 8 0	58 17 7	252 6 7
26. Renfrew,	65 11 3	74 12 1	27 12 4	34 3 3	201 18 11
27. Ross & Cromarty	7 13 3	14 6 9	14 3 5	12 9 10	48 13 3
28. Roxburgh,	25 2 9	19 2 1	15 4 2	9 5 1	68 14 1
29. Selkirk,	3 6 1	2 4 1	2 13 8	7 3 10	15 7 8
30. Stirling,	60 1 1	59 12 10	83 6 6	97 0 3	300 0 8
31. Sutherland,	8 18 9	18 15 8	5 7 0	6 14 7	39 16 0
32. Wigtown,	6 0 5	15 7 3	14 17 3	10 8 1	46 13 0
33. Zetland,	.....	7 12 6	10 17 2	12 0 5	30 10 1
	£1,203 3 9	£1,154 9 1	£1,014 7 2	£888 10 6	£4,260 10 6

ARREARS.

COUNTY.	PERIODS.	For Prisoners tried		
		With Jury.	Without Jury.	
Kinross,	Half-Year to 31st March 1851,	£0 19 8	£5 0 3	5 19 11
Do.,	„ 31st March 1862,	.....	5 0 3	5 0 3
Perth,	„ 30th Sept. 1860, *Suppl.*	.....	0 17 4	0 17 4
Do.,	„ 30th Sept. 1861, do.	.....	0 13 7	0 13 7
Ayr,	„ 30th Sept. 1862,	6 18 0	19 0 5	25 18 5
Sutherland,	„ 31st March 1863, *Suppl.*	.....	1 3 6	1 3 6
		£7 17 8	£31 15 4	£4,300 3 6

NOTE.—No accounts have been rendered by the following Counties for the periods understated:—

COUNTIES.	PERIODS.
Caithness,	For the *eight* half-years ended 31st March and 30th September 1860, 1861, 1862, and 1863.
Nairn,	For the *nine* half-years ended 30th Sept. 1859, 31st March and 30th Sept. 1860, 1861, 1862, and 1863.
Dumbarton,	For the half-year ended 30th September 1863.

EDINBURGH, *March* 26, 1864.

No. XXVII.

ABSTRACT of the Accounts rendered by County Prison Boards to Exchequer, for maintenance, after conviction, of Criminal Prisoners confined in Local Prisons who had been tried, with a Jury, or by the Sheriffs without a Jury, where proceedings were conducted under Sheriffs' Warrants—for the two **Half-Years ended 31st March and 30th September 1864**, respectively, and for previous periods for which Accounts were not rendered at the proper time.

COUNTIES.	For Prisoners tried by Jury.		For Prisoners tried without Jury.		TOTAL.
	Half-Year to 31st March 1864.	Half-year to 30th Sept. 1864.	Half-year to 31st March 1864.	Half-year to 30th Sept. 1864.	
1. Aberdeen, .	£17 3 4	£49 8 10	£31 5 4	£20 1 9	£117 19 3
2. Argyle, .	24 2 8	15 7 8	31 12 0	23 9 5	94 11 9
3. Ayr, . .	51 2 4	68 5 4	43 12 4	51 14 11	214 14 11
4. Banff, .	19 18 9	4 10 5	6 8 9	13 13 9	44 11 8
5. Berwick, .	5 6 9	4 8 5	17 19 2	11 7 3	39 1 7
6. Bute, .	43 12 1	30 5 11	14 11 3	6 17 9	95 7 0
7. Clackmannan,	12 18 6	7 15 8	19 9 0	17 2 6	57 5 8
8. Caithness, .	.....	.....	.....	.....	.....
9. Dumbarton,	6 7 4	.....	13 11 6	.....	19 18 10
10. Dumfries, .	21 4 5	18 8 4	18 1 2	13 17 4	71 11 3
11. Edinburgh,	154 16 3	148 6 7	146 12 5	141 5 9	591 1 0
12. Elgin, .	18 0 9	16 8 3	23 11 0	21 13 5	79 13 5
13. Fife, . .	23 10 9	18 11 4	37 3 6	24 3 10	103 9 5
14. Forfar, .	81 15 8	82 4 7	23 8 4	20 15 9	208 4 4
15. Haddington,	8 7 2	7 18 8	29 5 1	27 5 4	72 16 3
16. Inverness, .	55 13 1	45 8 9	24 15 5	18 15 8	144 12 11
17. Kincardine,	1 12 10	18 0 2	5 6 9	22 11 6	47 11 3
18. Kinross, .	7 5 8	10 5 6	2 18 5	6 14 3	27 3 10
19. Kirkcudbright,	7 5 8	7 2 10	18 8 7	14 9 6	47 6 7
20. Lanark, .	505 8 8	470 8 1	110 8 2	95 5 7	1,181 10 6
21. Linlithgow,	5 5 5	4 15 11	16 5 7	10 2 8	36 9 7
22. Nairn, .	.....	.....	.....	.....	.....
23. Orkney, .	.....	.....	4 12 7	.....	4 12 7
24. Peebles, .	11 11 6	1 9 8	16 16 8	7 1 4	36 19 2
25. Perth, .	31 0 1	28 0 7	72 4 6	55 4 4	186 9 6
26. Renfrew, .	77 9 2	35 2 8	23 4 10	17 17 3	153 13 11
27. Ross & Cromarty,	12 5 8	9 8 11	25 12 0	19 4 10	66 11 5
28. Roxburgh, .	10 9 8	18 13 6	12 10 3	12 18 2	54 11 7
29. Selkirk, .	0 8 10	0 18 6	12 14 5	9 11 8	23 13 5
30. Stirling, .	57 3 6	74 5 7	59 11 8	73 9 8	264 10 5
31. Sutherland,	0 6 0	10 12 10	2 5 9	4 4 5	17 9 0
32. Wigtown, .	25 6 11	16 1 5	19 1 7	10 8 3	70 18 2
33. Zetland, .	.....	.....	12 2 9	12 6 2	24 8 11
	£1,296 19 5	£1,222 14 11	£895 10 9	£783 14 0	£4,198 19 1

ARREARS.

COUNTY.	PERIODS.	For Prisoners Tried		
		With Jury.	Without Jury.	
Dumbarton, .	Half-year to 30th Sept. 1863, .	£1 8 10	£24 7 2	25 16 0
		£1 8 10	£24 7 2	£4,224 15 1

NOTE.—No accounts have been rendered by the following Counties for the periods undernoted:—

COUNTIES.	PERIODS.
Caithness,	For the *ten* half-years ended 31st March and 30th September 1860, 1861, 1862, 1863, and 1864.
Nairn,	For the *eleven* half-years ended 30th Sept. 1859, 31st March, and 30th September 1860, 1861, 1862, 1863, and 1864.
Dumbarton,	For the half-year ended 30th September 1864.
Orkney,	For the half-year ended 30th September 1864.

EDINBURGH, 31*st January* 1865.

No. XXVIII.

STATE OF ACCOUNTS

OF THE

MANAGERS APPOINTED UNDER "THE PRISONS (SCOTLAND) ADMINISTRATION ACT."

I.—FUNDS FOR CURRENT EXPENSES OF THE MANAGERS AND REMOVAL OF PRISONERS.

Receipts—being Charge.

1. Balances due upon accounts brought from last account, 1863,—			
For incidental expenses,	£62 6 8		
For removal of Convicts,	129 1 8		
For removal of prisoners sentenced to imprisonment,	272 10 3		
		£463	18 7
2. Cash received from the Queen's and Lord Treasurer's Remembrancer in full of Issues to defray the expenses of the Managers, viz.:—			
16th March 1864,	£100 0 0		
5th July „	50 0 0		
3d October „	50 0 0		
27th December „	50 0 0		
		250	0 0
3. Cash received from the Queen's and Lord Treasurer's Remembrancer in Exchequer in full of Issues to defray the expenses of removal of convicts sentenced to penal servitude under Secretary of State's warrants, viz.:—			
16th March 1864,	£200 0 0		
5th July „	300 0 0		
3d October „	300 0 0		
27th December „	300 0 0		
		1100	0 0
4. Cash received from the Queen's and Lord Treasurer's Remembrancer in Exchequer in full of Issues to defray the expenses of removal of prisoners sentenced to imprisonment, under orders of the Managers, viz.:—			
16th March 1864,	£100 0 0		
5th July „	100 0 0		
3d October „	150 0 0		
27th December „	150 0 0		
		500	0 0
5. Balance drawn from account with the Bank for Special Works at the General Prison, and paid into "Managers' expenses account,"		7	10 1
6. Interest accrued on "Managers' expenses account" with Bank of Scotland,		9	11 0
AMOUNT OF CHARGE,		£2330	19 8

Expenditure—being Discharge.

1. Payments of current Expenses of the Managers incurred year 1864, viz.:—			
(1.) Board's Chambers, &c.:—			
Rent,	£26 0 0		
Public and Municipal burdens,	8 7 4		
Postages, parcels, coals, water, gas, and other petty disbursements,	67 19 3		
(2.) Expenses of Managers visiting the General Prison at Perth, and other Prisons,	66 9 2		
(3.) Expenses of one of the Managers going on two occasions to London on Prison Business,	33 19 0		
		£197	
2. Payments on account of expenses of removal of convicts under Secretary of State's warrants,		959	
3. Payments on account of removal of prisoners sentenced to imprisonment under orders of Managers,		453	
4. Balance due by Managers, carried to account for 1864, viz.:—			
For incidental expenses,	£131 13 0		
For removal of convicts,	270 0 11		
For removal of prisoners sentenced to imprisonment,	318 11 5		
		720	
AMOUNT OF DISCHARGE,		£2330	

II.—EXPENSES OF THE SPECIAL WORKS AT GENERAL PRISON.

Receipts—being Charge.

1. Balance of Money left in Bank by the late General Board,		£382	10 10
2. Issued by the Treasury in favour of the Contractor for Works on the Lunatic Department, on Certificate by the Managers, as follows:—			
8th January 1864,	£300 0 0		
20th April 1864,	374 17 0		
		674	17 0
3. Bank interest on the above balance to 30th June 1864,		4	19 3
		£1062	7 1

Expenditure—being Discharge.

1. Payments to Contractor for Works on the Lunatic Department,	£674
2. Cash drawn by Managers and remitted to Perth for payment of Works done at the General Prison, as authorized by Secretary of State,	380
3. Balance drawn from this Account and paid into "Managers' expenses account,"	7
	£1062

III.—EXPENSES OF MAINTAINING FEMALE CONVICTS IN THE PRISON OF AYR.

Charge.

Cash issued from the Treasury,	£1907 7 9

Discharge.

Payments to Prison Board of Ayrshire, per the Queen's Remembrancer,	£1907

TWENTY-SIXTH REPORT

ON

PRISONS IN SCOTLAND:

BEING

(IN CONTINUATION OF THE REPORTS OF THE LATE GENERAL BOARD OF PRISONS)

THE FOURTH ANNUAL REPORT

OF

THE MANAGERS APPOINTED UNDER THE PRISONS (SCOTLAND) ADMINISTRATION ACT.

Presented to both Houses of Parliament by Command of Her Majesty.

EDINBURGH:
PRINTED FOR HER MAJESTY'S STATIONERY OFFICE,
BY THOMAS CONSTABLE.

1865.

HERBERT HOSPITAL, WOOLWICH.

REPORT

TO

THE RIGHT HON. THE EARL DE GREY AND RIPON,

SECRETARY OF STATE FOR WAR,

DESCRIPTIVE OF THE

HERBERT HOSPITAL AT WOOLWICH,

By DOUGLAS GALTON,

(Late Colonel Royal Engineers) F.R.S., F.R.G.S., F.S.A., F.G.S., F.L.S., Assoc. Inst. C. E., &c. &c.,

Assistant Under Secretary of State for War.

Presented to both Houses of Parliament by Command of Her Majesty.

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12257. 1865.

Report to the Right Hon. the Earl De Grey and Ripon, Secretary of State for War, descriptive of the Herbert Hospital at Woolwich, by Douglas Galton, (late Captain Royal Engineers,) Assistant Under Secretary of State for War.

My Lord,

In accordance with your Lordship's instructions, dated the 23d August 1864, I have the honour to lay before you the following report descriptive of the Herbert Hospital.

Origin of the Hospital.

Origin of the Hospital.

The Barrack and Hospital Improvement Committee reported in 1858 that the Garrison Hospital at Woolwich was overcrowded; 529 patients were in the building at the time of the inspection, whereas it only contained room for 304, with an average cubic space of 1,200 feet per bed, which was the space which the Committee was directed by its instructions to allot for the sick. The Committee objected that 304 sick were too many to be placed under one roof with a due regard to sanitary requirements, that the building was not adapted for economical administration, and that it was deficient in those ward conveniences which are considered essential in all modern hospitals

In the year 1859, when Lord Herbert came into office as Secretary of State for War, the number of sick amounted to 579, and it was necessary to put up marquees in the grounds for the accommodation of those the hospital would not contain. Upon examination it appeared impossible to convert the existing building into a good hospital according to modern principles of construction, and Lord Herbert therefore decided upon constructing a new hospital at Woolwich and converting the then existing hospital into a barrack, wanted at that station for the Military Train.

The regulated amount of accommodation for sick in proportion to the strength of a garrison was then 10 per cent.; this proportion applied to Woolwich required 620 beds, in addition to which a ward of 28 beds was required for prisoners, and a small ward for itch patients.

Selection of Site.

Selection of Site.

After a careful examination of the ground round Woolwich, and within about a mile of the Artillery barracks, it was found that only two sites afforded the space and the aspect which were necessary; of these, one was on land belonging to Sir T. Wilson, near the road to Charlton, and upon a gravelly soil, but this the proprietor refused to sell. The other was the site selected. It is situated on the western slope of Shooters Hill, bounded on the north by the Dover Road, and on the east by the road from Woolwich to Eltham.

Principles laid down for the Design.

Principles laid down for the Design of the Hospital.

Lord Herbert directed that the new hospital should be designed upon the principles laid down by the Royal Commission on the Sanitary State of the Army, and the Barrack and Hospital Improvement Committee.

It will therefore be convenient in this place to recapitulate the general principles which those bodies enunciated.

There are three classes of buildings to which the term hospital is applied in the army:—

(*a.*) Refuges for aged soldiers, such as Chelsea Hospital.

(*b.*) Buildings for receiving and disposing of invalid soldiers, chiefly on their return from foreign service, such as the great invaliding establishment at Netley.

(*c.*) Military Hospitals, properly so called, whether regimental, consolidated, or general hospitals.

Although the principles of healthy construction to be observed in buildings intended for human occupation are generally the same, yet when these principles come to be applied in practice, they require to be materially modified to suit the class of persons for whose occupation the building is constructed.

Principles laid down for the Design of the Hospital.

It is not necessary, for instance, that a building intended for old people should in every point resemble a building intended for sick, neither is it necessary that a building for the mere temporary reception of invalids, not more than a quarter of whom require medical treatment, and which, moreover, is rarely fully occupied for more than a few days in the year, should embody all the precautions required in a hospital for sick intended to be more or less constantly occupied by men in all stages of disease.

It is not proposed in these remarks to discuss the proper construction either for an aged or invalid establishment. Their object is simply to explain the present position of the question of the construction of hospitals of the third class above mentioned, viz., for the reception of sick.

Public attention in this country was first called to the leading principles of military hospital construction by Sir John Pringle upwards of 100 years ago. The points upon which he specially insisted were the following:

(*a.*) Avoiding agglomeration of large numbers of sick.*
(*b.*) Giving sufficient cubic space in sick wards.†
(*c.*) Abundant ventilation direct from the outer air.‡

Striking illustrations of the advantage of these principles occurred at a subsequent date in the practice of military surgeons, in which it was always found that where from circumstances the refinements of an ordinary hospital, such as hospitals then afforded, could not be provided, but when, on the contrary, medical officers were obliged to treat their sick more or less in the open air, the mortality was much less and the recoveries more rapid. As might have been expected, the same law was found to exist in the practice of military surgeons abroad, a striking illustration of which occurred in France during the invasions of 1814–15.

At this period sick and wounded soldiers were treated partly in hospitals and partly in unfinished shed buildings without doors or windows, so that the air blew freely through them, and the result was that in the uncomfortable sheds the mortality was one half what it was in the more comfortable hospitals.

In civil life also similar experience has been obtained during the prevalence of epidemics, when it has been found that the sick poor treated under almost any kind of shelter in the open air have yielded a far higher per-centage of recoveries than the same class of patients treated in workhouses and hospitals.

The benefits of subdivision of sick were proved in a striking manner during the Peninsular campaigns, and more recently in the Crimean war. With reference to the latter experience, it is very questionable whether there are any hospital results, as regards sick and wounded men, at all comparable in their low death-rate to what was obtained in the small detached wooden huts at Balaclava during the latter months of the war. These results become all the more striking if contrasted with the enormous death-rate among British and French sick and wounded agglomerated by thousands in the large, unimproved, unhealthy Turkish buildings near Constantinople used as hospitals.

All the experience obtained since Sir John Pringle's time has proved the correctness of his observations, and wherever hospitals for sick have to be constructed, his three great principles of subdivision, sufficient cubic space, and abundant natural ventilation must be provided for, unless indeed we are to ignore the results of experience altogether.

These principles were re-affirmed by a large committee of army medical officers appointed by the Director-General of the Army Medical Department at the end of 1856 to report on a proposed hospital for Aldershot. Plans had been prepared at that station for a hospital in separate pavilions, each to contain about 100 sick under one roof, the wards having windows on opposite sides, and the pavilions being connected together by a ground floor corridor for administration.

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* "When the disease begins to be frequent the sick should not be sent to one common hospital, at least not in such numbers as to vitiate the air, so as not only to communicate the infection to others, but to keep up among themselves * * *." "It would be still unadvisable to have but one common hospital, on account of the mortality that naturally ensues upon crowding together such a number of men ill of a putrid a disease * * *." The disease here alluded to is dysentery, but the same principles are applicable to all zymotic diseases and to surgical cases.

† "As to the disposition of hospitals with regard to preserving the purity of the air, the best rule is to admit so few patients into each ward that a person unacquainted with the danger of bad air might imagine there was room to take in double or triple the number."

‡ "I have generally found those wards the most healthful, when, by broken windows and other wants of repair, the air could not be excluded."

PRINGLE.—"Observations on the Diseases of the Army," Part II., Chap. 4.

The Committee, after examining the plans, gave the following opinion on the principle of construction proposed:

Principles laid down for the Design of the Hospital.

"The Board approved unanimously of the general principle proposed to be adopted "in the construction of the future building, which consisting of a series of detached "structures, each a separate hospital, connected by an open corridor running along "the ground story, will effectually prevent anything like an undue accumulation "of the miasms unavoidably generated more or less when large numbers of sick are "congregated under one roof."

Such was the position of the question at the time the Royal Commission on the Sanitary State of the Army, presided over by the late Lord Herbert, was issued by Lord Panmure in 1857. That Commission carried out an extensive inquiry into the question of hospital construction in this country. It received a paper of evidence from Miss Nightingale containing the results of extensive experience in hospitals of every variety of construction in most European countries in addition to the war hospitals in the east. It furthermore appointed a committee of its own body to examine the more recent improved civil and military hospitals in France and Belgium, and after maturely considering the whole subject the Commission recommended the following principles to be observed in the construction of all future military hospitals:—

(*a.*) The cubic space per bed to be 1,200 feet at home, and 1,500 feet in tropical climates.

(*b.*) In the construction of new hospitals the adoption of separate pavilions with lateral windows on opposite sides and natural ventilation.

(*c.*) The use of Parian cement, or other impervious material, for walls and ceilings.

(*d.*) Sufficient provision for warming and lighting the hospital.

(*e.*) The introduction of waterclosets and sinks with efficient sewerage by impervious drains free of the buildings; the closets and sinks to be cut off from the hospital by a ventilated lobby.

(*f.*) The provision of suitable lavatories, baths, and laundries.

(*g.*) The use of stone or fireproof material for staircases and landings instead of wood.

(*h.*) The introduction of proper cooking apparatus.

The Barrack and Hospital Improvement Committee* appointed by Lord Panmure on the recommendation of the Royal Commission of 1857 adopted these principles as the basis of its proceedings, and the information obtained by it during a careful examination of 114 military hospitals in the United Kingdom, and of numerous other hospitals both at home and in Paris, served to confirm the accuracy of the principles laid down by the Royal Commission.

In constructing military hospitals there are other things to be attended to besides the sanitary state of the buildings, and not the least important of these are the structural provisions required for administration and discipline. The soldier in hospital is still a soldier under officers, and if he be a prisoner he is under a special guard. Moreover, provision must be made in the construction for carrying out such a system of hospital administration as would be immediately applicable to field service. Again, the hospital service of the British army is essentially regimental during peace, but during war it may at any time become general. Hence the necessity for providing not only improved regimental hospitals, but improved general hospitals, with governor, principal medical officer, orderly service, paymaster, steward, and female nurses with their superintendent, so that all parties may be in the constant practice of the same duties, and have before their eyes the same sanitary conditions and precautions in operation, which they may be called on to put in force each in their several spheres during war.

Sanitary or administrative improvements which exist in fixed hospitals cannot, of course, be transported into the field for service, but the same principles which govern the construction of fixed hospitals can be applied in the field, and applied the more readily when good models exist to be copied.

It became part of the duty of the Barrack and Hospital Improvement Committee to show how the principles, which had been thus arrived at, should be applied in practice.

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* This Committee was composed of the Right Hon. Sidney Herbert, M.P., Dr. Sutherland, Dr. Burrell, and Capt. Douglas Galton, R.E.

Principles laid down for the Design of the Hospital.

There are two elements in the construction of a hospital upon which the design must necessarily depend, viz.:—

1st. The shape of the wards.

2d. The number of patients to be allotted to each ward.

These are the portions of the building which govern its shape, and to which all other parts must be made subsidiary.

The Barrack and Hospital Improvement Committee laid down the following as the proportions to be adopted in wards for military hospitals at home:—

(*a.*) Wards to be 24 feet in width, at least, to ensure the requisite facilities for ward-work.

(*b.*) Wall space for each bed to be not less than 7 feet 3 inches.

(*c.*) Height of the ward to be 14 feet.

(*d.*) Superficial area per bed, 87 feet.

(*e.*) These dimensions give a cubic content per bed of 1,218 feet, which is very nearly that recommended by the Royal Commission for home stations.

In wards beyond a certain length some additional height would be an advantage, but the Committee was obliged to limit itself to the space laid down by the Royal Commission on the Sanitary State of the Army.

The great point to be maintained was the superficial area per bed, which is an element of more importance than mere cubic space.

The next point which had to be decided was the number of beds per ward; and after mature consideration and a careful personal examination of wards of different sizes, and consulting persons conversant with ward administration, it was decided that wards should not contain more than 32 beds as a maximum number. This number, with improved ward construction, would be safe for the class of cases usually met with in military hospitals, while it is better adapted for efficient and economical oversight than wards of smaller dimensions.

The Committee had next to decide on the best arrangement of beds and windows.

They found two methods of arrangement in use:—

(*a.*) Placing the windows at the ends of the wards, with the beds arranged along the dead walls between them.

(*b.*) Placing the windows along the sides of the wards, with the beds between the windows.

By the former arrangement as many as seven or eight beds are placed along each wall between the end windows, which are the only means of light and ventilation.

According to the latter method the number of beds between opposite windows can never exceed two.

This latter arrangement was recommended by the Royal Sanitary Commission, and has been adopted in all recent improved hospitals both in this country and abroad.* Its

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* A very interesting and important discussion, involving all the leading points in hospital construction, took place in October, November, and December 1864 at the Société de Chirurgie at Paris, in which the most eminent physicians and surgeons attached to the civil and military hospitals of Paris took part.

The following are the conclusions arrived at, which it will be perceived are substantially the same as the principles on which the Herbert Hospital has been built:—

"L'ensemble des conclusions, mis aux voix et adopté, est ainsi conçu:—

"La Société de Chirurgie de Paris voulant contribuer, dans la mesure de ses efforts, à soustraire la pratique de l'art à la funeste influence des complications nosocomiales et à dégager pour l'avenir la responsabilité de la science, a jugé opportun, à propos de la reconstruction de l'Hôtel Dieu, de rappeler ou d'établir les principes suivants:

"I. Un hôpital doit être situé dans un lieu découvert, sur un sol sec et sur un terrain déclive. Ce terrain doit être vaste. Un espace superficiel de 50 mètres carrés par malade (= nearly 500 square feet) représente un minimum qui devra, autant que possible, être dépassé, et qui, d'ailleurs, doit croître *progressivement* avec le nombre des malades.

"II. L'atmosphère d'un hôpital sera d'autant plus pure qu'il sera plus éloigné des agglomérations populeuses. On ne devrait conserver au centre des villes que des hôpitaux d'urgence nécessairement restreints et des hôpitaux d'enseignement. Cette mesure de salubrité serait en même temps une mesure d'économie, et permettrait aux grandes villes comme Paris d'installer leurs hôpitaux sur de vastes terrains peu coûteux.

"III. De bonnes dispositions hygiéniques sont faciles à obtenir dans des hôpitaux de 200 à 250 malades. Elles deviennent à-peu-près impossibles à réaliser dans les grandes villes, si on dépasse le double de ce chiffre. Dans ces limites de nombre, les dépenses de toute nature ne sont pas plus élevées que pour des hôpitaux plus populeux.

"IV. Les éléments de l'atmosphère se mélangeant surtout dans le sens horizontal, il faut combattre par l'espacement les effets de contact et de proximité qui constituent l'encombrement et qui se produisent de malade à malade, de salle à salle, de bâtiment à bâtiment.

doption has been the result of experience; and a very slight examination of the two ystems is sufficient to show that wards with windows on opposite sides, with beds rranged between the windows, afford by far the greatest facilities for ventilating and ghting the ward. Principles laid down for the Design of the Hospital.

The Barrack and Hospital Improvement Committee decided against the introduction f any general system of warming and ventilation, after a careful examination of the ondition of the ward air in hospitals artificially ventilated, and recommended open fire-laces in each ward, and windows to open at top and bottom, in addition to flues near the eiling for carrying off heated air, and inlets for fresh air between the windows. They oncurred in this matter with the Royal Commission after an independent inquiry.

After mature consideration the Barrack and Hospital Improvement Committee lecided that a hospital pavilion should contain no more than two floors of wards in his climate. In warm climates one floor only of wards is better. In temperate limates more than two floors are unsafe on account of the difficulty of ventilation esulting from the natural tendency of the impure air of the wards below to pass, by neans of the staircases, into the upper wards; and in addition must be considered the nconvenience which arises from the large number of stairs to be ascended by the ttendants to reach an upstairs ward on the second floor.

The Barrack and Hospital Improvement Committee further recommended that a ieneral Hospital should have a few small wards for special cases, which should be placed .t a sufficient distance from the other wards to prevent the sick being disturbed by noise. Separate accommodation for sick prisoners should likewise be provided. An operation vard, easily accessible from an operating theatre, is also required.

The new regulations require that wards should be set apart for convalescents where racticable. Convalescents require liberty of moving about; they require change of oom or of ward through the day. It is better that they should not sleep, eat, and live n the same room. A proper convalescent day-room is therefore an essential part of very general hospital. It should be a good-sized, light, cheerful, airy, warm room, vith a good view from the windows, facility of access to and from the exercising ground, and facility of superintendence.

Hot and cold water should be laid on throughout the hospital; and each ward should ave its hot and cold bath, but every large hospital requires a general bathing establish-nent of hot, cold, vapour, and medicated baths. These are chiefly useful for conva-escents and for patients not confined to bed. They should not be attached to the vards, but accessible from them under cover.

Gas should be used for lighting; but the ward-lights should be arranged so as to nsure the immediate removal of the products of combustion from the wards.

A general hospital should be provided with a chapel.

"V. Ce n'est pas seulement en augmentant l'espace cubique alloué à chaque malade, mais encore et urtout en augmentant l'espace superficiel, aujourd'hui insuffisant dans nos hôpitaux civils, qu'on luttera fficacement contre les influences contagieuses. Pour des motifs de même ordre, il est indiqué de ne pas ultiplier les étages, chacun de ceux-ci engendrant une couche atmosphérique plus ou moins viciée. Au oint de vue rigoureux de l'hygiène, on ne devrait jamais superposer plus de deux rangées de malades.

"VI. Ce serait une illusion de croire qu'un large cube d'air à l'intérieur des salles remplace le manque 'espace et d'aération extérieure, de croire qu'une abondante ventilation artificielle supplée à l'une ou l'autre des conditions précédentes. Rien ne supplée à l'insuffisance ou au défaut de l'aération naturelle.

"VII. Les bâtiments complètement isolés, ayant tous la même orientation, exposés sans aucun obstacle ux rayons du soleil, à l'action de la pluie et des vents, seront disposés sur une seule ligne ou en lignes arallèles, à larges intervalles de 80 à 100 mètres, (= 260 to 330 feet) de manière à obtenir une séparation fficace et une libre et facile aération extérieure.

"VIII. De petites salles de 15 à 20 lits sont faciles à surveiller au point de vue des soins; la gêne éciproque des malades y est moins grande; les chances de contagion directe moindres aussi, l'enlèvement e toutes les impuretés plus rapide. Elles doivent être préférées pour les services ordinaires, sans réjudice de dispositions spéciales à adopter pour certaines catégories de malades qui réclament un plus arge espacement et l'*isolement* dans des chambres séparées.

"IX. Le mobilier des salles ne doit apporter aucun obstacle à la circulation de l'air. Il est nécessaire ue les chefs de service aient le droit de faire supprimer les rideaux des lits lorsqu'ils le jugent convenable.

"X. Les salles seront séparées par les paliers et les pièces de service commun. Il serait avantageux ue l'une d'elles pût recevoir, pendant le jour et pour les repas, tous les malades qui se lèvent; ce serait ne évacuation incomplète, mais quotidienne de la salle.

"XI. L'évacuation périodique et régulière des salles et leur repos pendant un temps de plusieurs mois, onnent, dans les hôpitaux militaires français et dans les hôpitaux étrangers, des résultats qui indiquent adoption générale de cette mesure, particulièrement impérieuse en temps d'épidémie.

"XII. Tout sera disposé pour que les matières odorantes et infectantes, déjections, objets de pansement, aux de lavage, etc., puissent être rapidement détruites ou enlevées, qu'elles ne séjournent jamais à intérieur ou à proximité des pièces occupées par les malades, et ne donnent lieu à aucune émanation ppréciable."

Principles laid down for the Design of the Hospital.

According to regulation, every general hospital must have accommodation for the following officers:—

Governor or Commandant.	Paymaster or Treasurer.
Principal Medical Officer.	Chaplain.
Orderly Medical Officer.	Captain of Orderlies.
Apothecary or Dispenser.	Superintendent of Nurses.
Purveyor or Steward.	

Under these officers there will be placed—

Assistant Apothecaries.	Ward Orderlies.
Female Nurses.	Cooks.
Ward Masters.	Washers, &c.

The whole staff should be accommodated within the enclosure; but where the area of ground is too small to accommodate the whole staff, or where quarters already exist within a moderate distance, certain officers may be accommodated out of the building but certain others should always be on the spot. The extent of quarters provided for officers should be upon the scale allowed in barracks, except that none of the superior officers should have fewer than two rooms and servant's accommodation.

The governor should always have an office and clerk's room for administration within the hospital, and his quarters should be within the hospital precincts.

The principal medical officer should have his office within the buildings, but his quarters may be away from it. There should be office accommodation for the Registrar either in or adjoining the principal medical officer's office. There ought to be quarters in the hospital for at least one orderly medical officer. A room for medical officers should be provided for meetings, consultations, &c.; likewise a waiting room for patients, a receiving room, and a surgeon's room.

The dispenser should also have a quarter in the hospital, to be in readiness for night calls.

The purveyor and paymaster should also have offices and clerks' rooms, but not necessarily quarters in the hospital.

The chaplain's quarters may be either within the precincts of the hospital or at a convenient distance.

The captain of orderlies should always be quartered within the administrative part of the hospital, as also the ward masters, and orderlies.

In case of sickness among the orderlies they would be placed in the ordinary wards.

No ward-master, assistant ward master, or orderly should sleep in a sick ward. He should have a bed in the room adjoining the ward, or, in the case of orderlies, in a separate sleeping room, affording 600 cubic feet per man, placed in the administration. This sleeping accommodation should be so placed with regard to the captain of orderlies' quarter, and non-commissioned officers' quarters, that proper order and discipline may be kept up.

The captain of orderlies' quarter should be so placed that he can with facility pass to any part of the hospital when he may be required on emergency.

The superintendent of nurses, and nurses, should be quartered within the administrative part of the hospital, but their quarters should be cut off entirely from the remainder of the administration. They should include linen nurses' and servants' room, store room, small scullery, bath, sink, and two waterclosets, as well as a light and airy room as sick nurses' infirmary, and a small room adjoining for woman attending on sick nurses. The whole of this part of the establishment should have one outer door communicating with the hospital proper.

The clean linen and clean clothing should be kept in rooms supplied with suitable racks and tables within the same outer door. One large room will be sufficient as a clean linen store, but a smaller room for repairing should be provided.

The new medical regulations have fixed the limits within which orderlies' and nurses' accommodation will require to be provided in general hospitals. One orderly is to be provided for every 10 sick, and for every fractional part of 10 sick.

With regard to nurses, the regulation regarding the number to be appointed is as follows: A nurse is to be appointed for every ward, or set of wards, excepting for venereal or convalescent wards, and no nurse is to have charge of fewer than 25 sick. But in a properly constructed hospital a nurse could very well take charge of 60 sick on one floor. A nurse would occupy a nurse's room in every pair of wards whereve possible, and the remaining nurses, including the superintendent's linen nurse, would be accommodated in the administration.

The kitchen may adjoin the administration, provided it be suitably cut off from the quarters, and thoroughly ventilated. It should be sufficient for all the cooking both of the sick and of the administration. In cases where the officers of the hospita

have separate quarters provided apart from the administration, but within the hospital precincts, each officer should be provided with a kitchen.

Principles laid down for the Design of the Hospital.

The block plan of the administrative buildings of a general hospital should be a subject of study by itself, just as the sick accommodation should be; but the sick accommodation must never be made to yield precedence to the arrangements for administration in the block plan; on the contrary, the administrative part must always yield precedence to the sick part, provided any yielding be required.

Description of the Plans, and Explanation of the Manner in which the Principles of Construction laid down by the Royal Commission on the Sanitary State of the Army and the Barrack Hospital Improvement Committee have been applied.

Description of the Plans.

The site occupied by the Herbert Hospital is on the southern slope, and a little below the summit level of a ridge of ground extending from Shooter's Hill along the Dover Road in the direction of Blackheath at an elevation of 235 feet above Trinity high-water mark. The ground has a fall, not only towards the south-west but also towards the west, and as it was of great importance to keep the corridor communication on the same level throughout the building, it was necessary to lower the ground at the north-eastern angle of the site, hence the level of the plateau thus formed is 14 feet below the original surface of the ground at this point, where the Dover Road joins the Eltham Road, but the north-eastern pavilion is 150 feet from that point, and the ward floor on the ground floor is nearly on a level with the part of the Dover Road opposite to the end of the pavilion, and is four feet above the actual level of the ground. The aspect of the site is S.S.W., and the view from it fine and extensive.

Shooter's Hill rises to the north-east and east of the plateau, but the plateau itself is protected from any possibility of wet from the higher ground by a deep drain carried round behind the enclosure wall on the northern and eastern sides, which effectually isolates the plateau on which the hospital stands from all surrounding levels.

The plateau itself is drained by agricultural drains placed in some parts at intervals of 15 feet, and in some parts at much closer intervals. The natural site had a rapid inclination down from east to west. The plateau has, therefore, been formed on two levels shown on Drawings 7 and 8. The ward floors situated on the eastern or upper part of the plateau are raised 4 feet above the level of the plateau; the basements, which afford a minimum height of 8 feet from floor to ceiling, are partially sunk below the level of the plateau. At the western or lower level of the plateau the ward floors on the same level stand considerably, and the basement floor somewhat, above the original ground surface. (Drawing No. 7.) A damp-proof course of glazed perforated brick placed just above the ground level is carried round the whole of the buildings, and a granite surface drain channel is carried close round all the walls. The water from the roofs is led away by close drains into a soft water tank. The surplus rain water from the roofs, and the natural drainage from the site, passes into a watercourse to the south of the site, which carries it into the Ravensbourne River. The foul water drainage on the other hand is carried through a sewer 3 feet high, and 2 feet wide from the north-west angle of the hospital site into the sewers of the town of Woolwich. (Drawing No. 3.)

Drawing No. 1 is a block plan of the hospital and grounds, from which it will be seen that the enclosure devoted to the hospital occupies an area of 523,500 square feet, or about 800 square feet per patient; and the area actually enclosed by the buildings is 74,450 square feet in all, or nearly 115 square feet per patient.

Drawing No. 2 gives a general view of the arrangement of the hospital. The block marked M is termed the administrative block. It contains the entrance gate and porter's lodge, waiting rooms, examination rooms, surgery, offices of the governor, registrar, and paymaster, quarters of the governor, dispensers, orderly medical officers, and captain of orderlies.

The female nurses' quarters are at the western end of the administrative block M, and occupy a portion of the ground floor and first floor. The whole of the upper or second floor is occupied with orderlies' quarters, to which an entrance is provided at the eastern end of the block. (Drawings Nos. 3, 4, and 5.)

The orderlies' dining room is in the basement at the western end under the linen store. A passage in the basement leads from the administrative block by the side of the kitchen to the main portion of the hospital, viz. that occupied by wards.

Behind the centre of the block M, and in the projecting building at the back of pavilion D, is placed the chapel, library, and kitchen. The kitchen and provision stores, &c. are in the basement. On the ground floor of this block close to the entrance

Description of the Plans.

gate are the purveyor's and steward's offices, where the provisions will be received from the contractors, weighed, and sent down by a lift to the kitchen.

Behind these, and connected with the central passage of the ward portion of the hospital only, is the library or reading room. On the first floor, above the purveyor's and steward's offices, is the chaplain's quarters, intended for an unmarried chaplain, and the vestry, and above these are rooms for the chaplain's servant; over the library is the chapel, the main entrance to which is from the central staircase of the ward portion of the hospital; an entrance for the chaplain being provided from the vestry. (Drawings Nos. 3, 4, 5, and 6.)

The wards are in the pavilions marked A, B, C, D, E, F, G, and building H.

The following is the division of the accommodation for patients:

Pavilion A contains 3 wards of 32 beds each, and 1 prison ward of 28 beds on the ground floor, with a guard room attached.
" B contains 4 wards of 32 beds each.
" C contains 2 wards of 28 beds each.
" D contains 1 ward of 20 beds on the first floor, 1 day and dining room on the ground floor.
" E contains 2 wards of 28 beds each.
" F contains 4 wards of 32 beds each.
" G contains 4 wards of 32 beds each, and 1 operating ward, and 2 wards of 1 bed each for special cases.
Building H contains 5 separate wards.

There are therefore 15 wards of 32 beds, 5 wards of 28 beds, 1 ward of 20 beds, and 8 wards of 1 bed. This gives 620 beds for the general hospital, besides 28 for the prison ward; in addition to these there is an itch ward, placed in the basement of pavilion F, with an access from the garden terrace only.

The pavilions are all connected by a corridor. The corridor extends the whole length of the building on the basement floor and on the ground floor, but only connects the first floor wards by means of an open terrace. At the western end is the operating theatre I, adjoining the operation ward K. The dead-house and post-mortem room are outside the hospital, on the basement level, marked L.

The pharmacy on the ground floor, and dispensary on the basement, are at the back of pavilion C. The general bath-rooms are in the corresponding block behind pavilion E, and under the bath-rooms is the boiler-room, whence all the hot water of the establishment is supplied.

Under pavilion F is the itch ward, entered only from the outside and furnished with a sulphur bath, an ordinary bath, ablution room, and watercloset, &c. The pack-store is in the basement of pavilion E. The purveyor's stores are in pavilions E, F, G. The latter pavilion also contains a board room for holding medical boards, with access from the outside as well as from the central corridor of the hospital, inside, and a museum and reading-room for the officers of the Army Medical Department.

The main entrance to the hospital enclosure is through the administrative block M. There is also an entrance at the north-west corner of the enclosure, which gives access to the basement, and to what may be considered the back premises of the hospital; and an entrance to the grounds at the south-east angle of the enclosure. (Drawing No. 1.) At each pavilion a staircase connects the ground floor and first floor; but at pavilions D and G only is the staircase carried to the basement floor.

There are airy basements under pavilions A, B, and C, which have been fitted up as general store-rooms for the hospital equipment held ready for field service with an army.

The minimum distance at which adjacent pavilions can be placed apart, in the pavilion system of hospital construction requires a very considerable extent of ground. In the Herbert Hospital where the pavilions are placed end to end the extreme length of the corridor uniting the pavilions is 715 feet, and thus the distance to be travelled between any one place, such as the kitchen, dispensary, or stores, from the most distant ward, is very considerable.

With a view to economise the labour of administration to the utmost, the following plan has been adopted:—

The kitchen, dispensary, coal stores, foul linen receptacles, dust receptacles, &c. have been placed in or adjoining the basement (the kitchen being in the centre), and a corridor in the basement, under the ground floor corridor, which connects the pavilions, runs from end to end of the building. This corridor is on one level, and without steps from end to end; and underneath the corridor is an arched subway in which all the main water pipes and gas pipes are laid so as to be easily accessible at all times. (Drawing No. 7.)

Description of the Plans.

The kitchen communicates directly with this corridor only by means of serving windows near the foot of the staircase in pavilion D. The doors leading into the kitchen are placed in the corridor which leads from the administrative building M to the basement corridor connecting the pavilions. (Drawing No. 3.)

The kitchen has a raised platform along the end occupied by the serving windows to facilitate giving out the diets, and receiving the returned dishes through these windows.

The kitchen is 13 ft. high, 76 ft. long, and 32 ft. wide, and has windows on both sides; it is moreover ventilated by shafts carried up by the side of the chimneys, at one end the chimney from the boiler-house, at the other end the chimney of the cooking apparatus. The scullery, larder, and provision stores are close adjacent to the kitchen.

The whole of the cooking for the patients and hospital staff, excepting the officers, as well as the bread baking for the establishment, is carried out in one compact pannelled iron cooking stove fixed in the centre of the kitchen, with an underground smoke flue communicating with the chimney shaft. This apparatus occupies a floor space of nearly 15 ft. square, and contains the requisite fittings for cooking and baking; is perfectly simple, requires no skilled attendance, and consumes very little fuel.

The apparatus contains 5 iron boilers or caldrons, for meat, soup, beef tea, gruel, puddings, tea, and cocoa, of capacities varying from 20 to 50 gallons. Each boiler is furnished with a hinged and balanced cover fitted steam-tight, a large tap for supplying steam or boiling water, and another for emptying, and each can be converted at pleasure into a steaming pan for potatoes and other vegetables. The apparatus has also two large steam boilers, with the necessary safety valves and taps, and self-acting feed arrangements, as well as two iron pastry ovens, and two hot plates for boiling, stewing, or frying, and two ventilated brick roasting ovens, each capable of holding about 15 joints; these ovens, by closing the valves, become ordinary bread ovens of the capacity of three bushels each. The whole is worked by two furnaces, each furnished with its necessary regulating dampers, soot holes, and ashpit; the anticipated daily consumption of fuel is about $1\frac{1}{4}$ cwt. of coal for each furnace. The object of this double arrangement of all the parts is to enable the apparatus to be worked at half or full power, according to the number of patients, and also to admit of occasional repairs without any interruption to the cooking and baking. The central position of the apparatus in the kitchen affords the advantage of perfect access to every portion, and leaves the kitchen walls clear for dressers and shelves.

Between the cooking stove and the serving windows is fixed a polished iron counter or carving table heated by steam, 20 ft. in length and 3 ft. high, with five pewter dishes let into its top surface, as many scales and weights for the due adjustment of the rations, and underneath it a series of hot closets for plates and dishes, with sliding doors before and behind; the whole is supplied with steam from the cooking apparatus boilers.*

The patients' day and dining-room, as has been already mentioned, is in pavilion D, so as to be near the kitchen; it is on the ground floor, and the meals can be carried from the serving windows either up the central staircase or by means of a lift. (Drawing No. 4.)

The orderlies' dining-room is easily accessible from the kitchen by means of a covered corridor, and communication with the quarters of the female nurses is provided for by means of a lift. (Drawings Nos. 3 and 5.)

Lifts, worked by hydraulic power on Sir William Armstrong's principle, are placed at each pavilion communicating between the basement and each ward floor, by means of which it is intended that diets, coals, medicines, &c. shall be passed up from the basements to the wards. There are nine of these hydraulic lifts, and they were supplied from the works of Sir W. Armstrong at Elswick. Each of them is capable of raising a load of 2 cwt. and has a range of lift equal to the height between the basement floor and the upper floor of the building, and all parts of the machinery and pipes were tested to a pressure of 2,500 lbs. per square inch before being delivered. They are made of a size sufficient for raising trays, coals, &c., but are not intended for lifting patients or other persons.

For working these lifts a high-pressure steam engine of 15 horse power, and an accumulator with a ram 7 inches diameter, and a stroke of 12 feet, have also been supplied from the Elswick works. The working pressure on the lifts is about 800 lbs. per square inch. (*See* Drawings Nos. 20, 21, and 31.)

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* These fittings have been supplied and erected by the patentees, Messrs. Benham and Sons, of Wigmore Street, Cavendish Square, who also fitted the kitchens of the Victoria Hospital, Netley, and the Royal Marine Infirmary, Woolwich.

Description of the Plans.

The arrangements for sending the diets up the lifts are as follow:—The diets are to be placed on trays (specially made to fit the lifts) in the kitchen, and passed through the serving windows to the orderlies, who will place these trays on small waggons to convey them to the foot of the various lifts, which can be set in motion or stopped at will by the attendants on any of the floors with which the lifts communicate.

Opposite the kitchen in the basement of Pavilion D., Drawing No. 3, is a room into which bells ring from all the wards, and in which bell-pulls to each ward floor are provided, so that signals can be made in each direction; also at every lift a speaking tube, with signal whistle, to each floor is provided; and thus the orderlies can communicate from the basement to either of the ward floors, or from the ward floors to the basement, either by means of the bells before mentioned, or by the speaking tubes.

On each ward floor there is a door opening into a shoot, made of glazed earthenware pipe, for foul linen, which can thus be dropped direct into a small well lighted closet in the basement; and similarly on each ward floor there is a shoot, down which it is intended dust shall be swept and taken out in the basement below; both the shoots are carried up to an opening above the roof so as to prevent any smell passing from them to the ward floors. (Drawing No. 12.) The arrangement for enabling the dust to be discharged from the shoot into a cart in the basement is shown in drawing No. 14.

There are only two principal staircases between the basement and the ground floor corridor, one in the centre, the other at the end at which the operating theatre and dead house are situated; this has been done so as to separate as effectually as possible the basement from the portion of the hospital to be occupied by sick. There is, however, also a small staircase which leads from the dressing room, which adjoins the general bath-room at Pavilion E., Drawing No. 4, direct to the pack store in the basement.

The general coal store for the supply of the hospital is shown on Drawing No. 3, between the kitchen and boiler-house. And a coal store for the officers is placed under the administrative block. All the officers' and nurses' rooms and offices are warmed by means of ventilating grates, as described in drawing No. 22, and Appendix No. 2; the fireplaces for warming the wards are described at page 18.

A broad terrace runs along the southern ends of all the pavilions, and a flight of steps leads from the centre of this terrace down to the hospital grounds. The grounds slope towards the south, and are enclosed partly by an open iron railing and partly by a wall. (Drawing No. 1.)

The space allotted to the patients is divided off from the iron railing by means of a light wire fence, so constructed as to be impossible to climb over, and at a distance of about ten feet from the iron railing, to prevent articles from being handed over.

Supply of Gas.

The gas is supplied from the Government Factory in the Royal Arsenal; it is brought by a main to a meter constructed for 600 lights, which is placed in the basement of the projecting building adjacent to pavilion G, whence it passes by a main, laid in the pipe duct under the floor of the basement, to supply the several pavilions and the administrative block M. The outside lights are supplied by a separate branch. The arrangements for shutting off gas from the various parts of the building are as follow:—

The lights in block H can be shut off by means of a stopcock, placed in the subway or pipe duct under the basement corridor; or, with that open, either side of the building can be lighted or the gas turned off at pleasure, by means of stopcocks placed one on either side of the corridor.

Each pavilion is provided with a separate rising main, from the 4″ main in the subway or pipe duct, on either side of the corridor; and each rising main has a stopcock on the basement, ground, and first floors, and a branch main with stopcock is provided to the light over the staircase.

There is one rising main for bath and boiler house, and there are two branch mains from the rising main to the chapel and staircase, so that either can be lighted at pleasure.

The kitchen and north end of chapel building, containing the purveyor's offices and chaplain's quarters, are lighted from a separate 2-inch main, with a stopcock in the subway or pipe duct, one in purveyor's office and one in cook's room.

In the front building M there is a separate main with stopcocks to each floor.

Supply of Water.

The water for the Herbert Hospital is supplied by the Kent Waterworks Company.

The water is obtained from wells in the chalk, and pumped into a cistern at a level of about 90 feet above the roof of the hospital.

Supply of Water.

The water supplied by the Kent Company to the Herbert Hospital Waterworks contains 28·38 grains of solid matter per imperial gallon. The proportions of the principal solid constituents in a gallon of the water are as follow:—

Carbonate of lime - - -	15·95 grains.
Carbonate of magnesia - -	2·10 „
Sulphate of lime - - -	6·12 „
Chloride of sodium - - -	3·21 „
Organic matter - - -	1·00 „
	28·38

The foregoing analytical results show that the hardness of the water is very considerable; estimated by Dr. Clark's soap test, it amounts to 21° of hardness; it was therefore necessary to submit it to Dr. Clark's softening process before it would be fit for hospital use.*

In the preliminary experiments with the water supplied to the Herbert Hospital it was found upon examining the water directly after its treatment with lime water (*i.e.* as soon as it had become clear) that its hardness was reduced from 21° to 9°; when the softened water was left undisturbed for 12 or 24 hours the hardness was reduced to 8° and 7°. This difference is due to the circumstance that a small proportion of the carbonate of lime separates gradually from the water in a crystalline form. As the softening tanks at the Herbert Hospital works are so arranged that the softened water will remain in the depositing tanks at least 12 hours, it may be considered that the average reduction of hardness of the water supplied to the hospital will be from 21° to 8°.

The buildings connected with the water supply are situated on the western side of Shooter's Hill, and distant about one third of a mile in an easterly direction from the hospital. They are shown on drawings Nos. 23 to 30.

The main block contains the two service reservoirs, and two depositing reservoirs. The former, which are 15 feet deep, 35 feet 3 inches long, and 16 feet 6 inches wide, are beneath the surface of the ground upon concrete foundations, and the walls are of brick, and 2 feet 3 inches in thickness, with buttresses at intervals.

Over these are placed the two depositing reservoirs, the floors of which are of brick laid with cement, and resting on concrete. These floors rest on iron girders, which are supported by cast-iron pillars rising from the floors of the service reservoirs. The depositing reservoirs are 11 feet 3 inches deep, 16 feet 6 inches wide, and 35 feet 3 inches long.

In the smaller block are placed the lime-water reservoir, lime house, store-room, workshop, and a boiler for hot water. The lime water reservoir is on about the same level as the depositing reservoirs, and constructed similarly to the service reservoirs,

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* By submitting a hard water (*i.e.* a water containing a large quantity of lime and magnesia salts) to treatment with lime either dissolved or suspended in water, the carbonic acid, by which the *carbonates* of lime and magnesia are held dissolved in the water, is fixed by the lime added, with which it forms carbonate of lime. The result of this change is that the earthy carbonates can no longer be held in solution by the water submitted to the treatment, and that the latter is consequently freed from those hardening constituents. Theoretically, therefore, the treatment of a hard water with lime effects a result corresponding to that obtained when the water is boiled; in the latter case heat expels the carbonic acid by which the earthy carbonates are held in solution, in the liming process the carbonic acid is extracted from the water by the lime added.

Other earthy salts than the carbonates are not separated from the water by the liming process, because they are held dissolved by the water without the aid of the carbonic acid. Those salts (*e.g.* the sulphates) constitute, therefore, what is called the permanent hardness of the water.

In carrying out this liming process the water under treatment is mixed with solution of lime (lime water) in such proportion that the amount of lime, added to the hard water, is equivalent to the lime and magnesia contained in the latter in the form of *carbonates*. As the water and lime solution mix the clear liquid becomes cloudy, in consequence of the simultaneous conversion of the lime added into carbonate of lime and separation from the hard water of the earthy carbonates.

The softened water, being allowed to remain at rest until quite clear, deposits a sediment which consists of the carbonates of lime and magnesia originally dissolved in the water and of the carbonate of lime into which the whole of the lime added has been converted.

The proportion of lime water to be added to a hard water is of course determined by the quantity of earthy carbonates shown by analysis to exist in the water; but it is also controlled by the application of a simple test to the mixture during the liming process. This test enables the proportion of lime water added to be regulated according as the composition of the water (*i.e.* the proportion of carbonates to be separated) fluctuates.

The lime water used is prepared either from the water supplied or from some of the softened water. Slaked lime is converted into a cream, with water, and is then mixed in slight excess with a large volume of water; the mixture is well stirred for some time, and afterwards left at rest until the excess of lime has deposited.

Supply of Water.

partially below the surface of the ground, resting on a concrete foundation. It is 15 fe deep, 14 feet 6 inches wide, and 16 feet 9 inches long.

The interior walls of all these reservoirs are rendered with Portland cement.

The process of softening the water is carried out at these works in the followin manner :—

The first preparation of the lime, by mixing with it sufficient hot water to mak cream of lime, takes place in a small iron tank in a room over the storehouse. Thenc this cream of lime is conveyed by a pipe to the lime water reservoir, when a larg volume of water is added to it, and thoroughly mixed by two revolving " agitators fixed in the centre of the reservoir.

When sufficiently mixed, the lime water is conducted by a pipe to one of th depositing reservoirs, when the necessary proportion of water is added to it. Here i remains until a sufficient time has elapsed to allow of the deposition of the earth constituents of the water, and then the softened water is drawn off from the uppe part into the service reservoir, and is ready for supply to the hospital.

A small quantity of water containing the deposited sediment is allowed to remai at the bottom of the depositing reservoir, to be passed away by a pipe into the whitin pits outside the building.

The service reservoirs into which the softened water is thus introduced are eac capable of containing 47,000 gallons, and the water passes from those reservoirs throug 6-inch iron socket pipes so as to afford a constant high-pressure supply to the hospital.

A 4-inch main supply pipe, for the internal supply of the building, is carried alon the pipe duct under the basement floor of the hospital, and similar mains are carrie outside the building on each side for the supply of 4 fire-cocks and 13 stand-pipe which are prepared for brigade hose.

From the main inside the building tubing of various sizes conducts the water t cisterns placed for the supply of the lavatories, baths, urinals, sinks, &c.

Near the end of each ward, both on the ground floor corridor and on the floo above, and in each ward lavatory, fire-cocks are placed connected with the mains.

Hot-water Service.

The hot-water* supply for warming purposes is provided by means of two wrought iron cylindrical boilers 17 feet long and 4 feet in diameter, with the necessary fitting and self-acting apparatus for prevention of smoke.

Circulating 6-inch pipes lead from the boilers along the corridor within a chambe formed under the basement floor, and communicate with coils, two of which are placed in each section of the corridor between the pavilions. Air ducts with regulating valve and gratings are provided for the delivery into the corridor of the air warmed by the coils. Coils of 4-inch pipes are also placed in the lavatories, in the waterclosets, and i the lobbies which divide these appurtenances from the wards (Drawings No. 10 and 11) Fresh air is conducted to these coils, to be warmed in cold weather before admissio into these places. A coil of 2-inch pipe is placed in each ward scullery to warm the closet in which the clean linen is kept. All the main pipes are covered with three thicknesses of stout hair felt, except where they are protected by brickwork.

The chapel, ward staircases, female nurses' sleeping rooms, officers' museum an library, and the hospital library are warmed by a similar arrangement.

For the hot-water service for baths, ablution, and general purposes two boilers of the same size as those above described are provided, whence a 6-inch flange pipe is conducte along the entire length of the building. Each boiler is connected with two flow and two return pipes, each leading to a 10-inch main, fitted with branch outlets for the 6-inch circulating pipes, and with regulating valves so arranged that either one or both boilers may be used. A counter circulation in $1\frac{1}{2}$-inch wrought-iron tubing leads from the 6-inch mains through each of the ward lavatories, sculleries, baths, and sinks. Stop-cocks are provided by means of which these hot-water services can be cut off from any part of the building as may be required.

Washing Establishment.

The wash-house and laundry is separate from the hospital, and placed on the north side of the Dover Road; it contains a 4-horse power engine, with boiler, &c., for working the washing, wringing machines, and mangles. The laundry contains the necessary washing and steaming tubs, drying closet, and an ironing-stove. The general arrangements are shown in drawings Nos. 31 and 32.

The engines and accumulator for working the lifts are placed in the same building.

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* The whole of the hot-water service was arranged by Messrs. Jeakes and Comp., of 51, Great Russell Street, Bloomsbury.

It has been mentioned that the rain water from the hospital roofs is carried to a tank the western end of the hospital. This tank is capable of holding 58,000 gallons, and e soft water from it is used in the washing establishment. Washing Establishment.

The specification for the hospital, showing all the details of construction, is printed the Appendix No. 3. Cost.

The cost of the Herbert Hospital is as follows:

	£
Purchase of land	6,394
Buildings appertaining to the hospital proper, including the washing establishment	209,139
Reservoirs for softening water	5,351
Total cost	£ 220,884

Such being a general outline of the building it is necessary now to show in what anner effect has been given to the principles laid down by the Royal Commission on the anitary State of the Army, and by the Barrack and Hospital Improvement Committee, id to explain the reasons for the various arrangements which have been adopted. Explanation of the Manner in which the Sanitary Principles laid down have been applied.

The design for a hospital is necessarily dependent upon the proportions and form lected for the wards and their appurtenances; it is desirable therefore in the first lace to direct attention to this part of the hospital.

The system of ward construction, adopted in all the best existing hospitals, and quired by the Barrack and Hospital Improvement Committee, viz., placing the windows ong the sides of the wards, with the beds between the windows, produces a large amount f outside wall, and both with a view to economize warmth and to ensure dryness, it was ecided to build the walls with an air space in the centre. (Drawing No. 9.)

In this method of construction the thickness of brickwork in the wall is the same s it would be in a solid wall, the air space being additional. The sketch in drawing o. 11 shows the arrangement adopted. The inner portion of the wall, 14 inches ick, is built of stock bricks; the bond is made with "Jennings'" vitrified bonding icks placed in alternate courses; the air space is three inches wide, and the outer ortion of the wall is of stock bricks faced with white Suffolk bricks. The object of sing white bricks for facing is to make the walls of the pavilions, which are looked on from the ward windows, as cheerful as possible.

In the best existing examples of hospital construction there is one window for every wo beds, and the Committee recommended this proportion for the new military ospitals. The proportion of superficial window space per bed thus afforded is about 4 feet, including a large window at the end of the ward. In the Lariboisière Hospital t Paris it is 30 feet; in the great military hospital at Vincennes it is 24 feet, and n the larger front wards of Netley Hospital, devoted to the treatment of sick as istinguished from invalids, it is 31 feet.*

The amount of window space in the Herbert Hospital which is the same as that n the other new military hospitals is however sufficient. The large window at the ree end of the ward was adopted from some of our best civil hospitals, in which he end window has been found of great use in ventilating the wards, especially at ight. All the side windows are hung at top and bottom in the usual way, on account f the much greater facility for ventilation afforded than by the French casement ystem. The end window which is circular-headed has the lower part constructed as French casement; the circular head is arranged to open by falling inwards so as to hrow the incoming air towards the ceiling. Plate glass three eighths of an inch thick s used in all the ward windows in order to economize warmth.

The ward floors are of oak, which forms the healthiest kind of floor. They are laid n iron joists and concrete, with a smooth cement surface on the top, on Fox and Barrett's principle, partly with the view of making them fire-proof, partly to prevent ound being transmitted through, and partly to ensure that no impure air shall pass rom the lower to the upper ward through the floor. Upon the iron joists are sleepers unning lengthways of the floor, and small timbers of 2 in. by 2 in. across them. The

* In the nine-bed wards at Netley Hospital opening out of the corridor, and mainly occupied by men ot sick, the total surface of glass receiving light from the corridor and from the open air is 33⅓ square et per bed. The area admitting light direct from the open air, exclusive of the light from the corridor, is 6⅔ square feet per bed. In New St. Thomas' Hospital, besides the large end windows, *every bed* will have a indow, thereby giving a much larger glass area than that of any military hospital.

Explanation of the Manner in which the Sanitary Principles laid down have been applied.

boarding is of oak battens, tongued, closely laid and wrought to a smooth surface. Th space between the oak floor and the concrete is ventilated through holes drilled i an oak sill 3 inches in radius, quarter round, placed as a skirting all round the wa in order to prevent the beds from being pushed up close to the wall; the holes drilled i the skirting allow of a current of air passing between the oak floor and the concret (Drawing No. 16.) These floors have been carefully oiled and beeswaxed, so as to b maintained clean by rubbing, without the necessity of frequent washing, which render the wards damp.

The ward walls are lined with Parian cement, in conformity with the recommendatio of the Royal Commission. The object of this is to improve the ward atmosphere, whic in hospitals with plastered walls becomes foul after a time because the porous plast absorbs organic matter. The usual remedy for this is limewashing and frequent scrapin of the walls, but it is anticipated that the Parian cement will not absorb organic matte and that simple washing with soap and water will enable the wards to be continuously use

The wards are lighted at night by means of gas. The lights are enclosed in glas globes suspended from the ceilings by tubes, through which the whole of the products c combustion are removed into the open air by suitable flues; these flues are so arrange as to be easily cleaned out periodically. (Drawing No. 14.) In the upper wards, wher it has been necessary to lay the gas pipes for the lower ward under the floor, the oa battens are screwed down so as to be easily taken up when required.

The means of ward ventilation which have been adopted in the Herbert Hospita are very simple. In weather when fires are not needed ventilation is effected first an mainly by the windows, and, in addition, by Sherringham's * ventilators introduced betwee the windows on each side of the ward close to the ceiling, and by a shaft at each angle c the ward carried up above the roof for the escape of the foul air. (Drawing No. 17. The united area of these shafts affords from 10 to 14 square inches of area per patien according to their height, *i.e.*, according to whether they are for the wards on the groun floor or first floor; they are terminated in the ward by louvres, which in the event of down draught would throw the air up towards the ceiling.

In weather which requires fires an important means of admitting fresh air is provide by specially constructed open fireplaces placed in the middle of the wards. The draugh of the open fireplace removes a large quantity of air from near the floor of the war where it is coldest. The air thus removed, as well as that removed by the shafts, i replaced by fresh air previously warmed by contact with the chimney-flue and sides c the fireplace. These grates warm the wards partly by direct radiation, and partly b warming slightly a large mass of fresh air taken, not from the ward, but from th outer atmosphere. Their essential characteristic is the introduction of fresh warme air from without, and they are placed in the central line of the ward in order t distribute the fresh warmed air more equally than if placed at the side, and also fo the purpose of obtaining a larger amount of heating surface to warm the fresh a which is admitted along the side of the horizontal flue. Drawing No. 15 shows th general arrangement of these stoves. The fire stands in an iron cradle fitted to th fire-clay back and side, and a current of air is brought through the fire-clay, whe it becomes heated, on to the top of the fire to assist in the combustion of the gase and the prevention of smoke. The top of the stove is coved inside to lead the smok easily into the chimney, which runs horizontally under the floor to the side wall c the ward, and is placed in a trough along which air direct from the outer air is brough so as to pass in contact with the flue, and thus to extract heat from it before it passe into the ward; these inlets for fresh warmed air are arranged to afford an area of fro 8 to 10 square inches per bed. These horizontal flues were originally designed to be c fire-clay, but their size as designed was not sufficient to cause the stove to draw well, an they were consequently enlarged so as to give an area of 110 square inches. It wa however found necessary, in order to preserve the requisite area in the trough for fres air, to make the flues of iron instead of fire-clay; and to prevent the air being overheate by the iron an outer casing of iron was put over them, and the interval filled with a thi coat of fire-clay; the hearth, which is of iron, has been similarly treated. Arrangemen are made, in the floor by means of panels, in the trough, and in the flues, to enable th trough to be easily opened along its whole length, and the flue to be lifted out so that th air passage may be easily cleaned periodically. (Drawings Nos. 15 and 16.) The hor zontal flue is swept by means of an opening at its end close to the stove in the war through which a brush can be pushed so as to force the soot into the vertical flu

* The mode of action of Sherringham's ventilators is found to depend very much on the direction of th wind: thus they will occasionally act as outlets for impure air as well as inlets for fresh air.

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with which it communicates in the side wall, and which is carried from the top to the bottom of the building; at the bottom of the vertical flue, and outside the building, is a soot door, by means of which the soot can be removed; the outer wall close to the soot door is covered with glass to prevent the soot from dirtying the wall. In order to prevent any chance of smoke when a fire is first lighted, a spare flue is provided, close to the ward flue, from a fire in the basement, and by means of which the vertical ward flue can be heated and a draught obtained. This can be used if wanted to assist ventilation in summer, by extracting air through the ward fireplaces. The separate wards, the operation ward, the wards for special cases, and the itch ward are ventilated by means of extracting flues placed near the ceiling at the side of the chimney breast, by Sherringham's ventilators for admitting fresh cold air, and by the ventilating grate of a pattern similar to that adopted for barracks for warming and admitting fresh warmed air. These grates are shown in drawing No. 22, and described in Appendix No. 2.

The ventilating arrangements have been devised with the view of taking advantage of that difference of temperature between the air outside and within inhabited apartments which almost uniformly exists in this climate. When this difference is small, or when the outer air is unusually still, the medical officer must supply the necessary correction by a proper use of the windows.

At the free end of each ward and on each side of the end window is a small square room. (Drawings Nos. 9 and 10.)

One of these rooms contains a glazed terra cotta bath, a sink at which the portable baths can be easily filled and emptied, an urinal, and a range of white earthenware lavatory basins sunk in marble slabs, and having hot and cold water laid on; the marble has been adopted because it is whiter than slate, and therefore shows dirt more easily. Drawings Nos. 12 and 13. The hot water supply is furnished from the central boilers mentioned at page 16.

In the other small room are placed the waterclosets and a sink for ward slops. These are separated from the ward by a ventilated lobby, with the ventilating windows placed at right angles to each other; an arrangement by which the wind, in whatever direction it blows outside, carries the effluvia away from the ward, a result which can be secured by no other existing arrangement.

In addition to the ventilation afforded by the windows which open at the top and bottom, each of these compartments has shafts for the escape of foul air, and Sherringham's ventilators for admission of fresh air, and they, as well as the lobby between the compartment and the ward, are each warmed by a coil of hot-water pipes (Drawing No. 11), round which air direct from the outer air is admitted, so that each compartment and each lobby has its own independent supply of fresh warmed air in winter, and thus every precaution is taken to prevent the smell from the waterclosets and sinks being drawn into the wards in cold weather.

The waste pipes which convey away the refuse are all trapped just under the outlet from the basin, bath, urinal, or sink with which they are connected; they pass into a waste soil pipe, which is carried up to above the roof, and open at the top, so as to allow of an outlet for the gases displaced in the pipe when water is suddenly thrown into it from sinks or waterclosets; the waste pipe is led into a trap at the bottom to cut it off from the drain outside the building, so that every precaution has been taken to prevent any drain smell from entering the building.

All the waste pipes are carried directly out of the building, and no drains pass under any part of it.

The sinks for slops from the wards and the waterclosets throughout the buildings are constructed on the valve principle by Mr. Jennings. The advantage of these closets is, that the whole contents are emptied rapidly and thoroughly, and a fixed quantity of fresh water flows in to replace that removed by emptying, however short may be the time during which the valve for emptying is raised. The seats of the waterclosets are of oak, as being less absorbent than deal, and the sides are of enamelled slate. The sink has a lead safe all round, and sloped into it, and enamelled slate at the sides; it is also supplied with a water tap for washing out the utensils emptied into it. Urinals are provided in the ablution room; of these two forms are adopted. One is on a principle somewhat similar to that of Jennings' waterclosets, that is to say, the pan holds a fixed quantity of water, and any excess passes into the drain through an overflow pipe: this water is emptied periodically by raising a valve, so arranged as to allow a fixed quantity to pour in after the pan has been emptied. The other form, which has been more generally adopted as being more economical of water,

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has a treadle which admits the water only while the man using it stands at the urinal. These urinals are fitted with slate floors and sides.

The ablution room has also hot and cold water taps for conveniently filling the portable baths which are on rollers, and under these taps, on the level of the floor, is a sink for conveniently emptying the baths.

The arrangement of these various fittings, and the method of ventilating these rooms and adjacent lobbies, are shown in drawings Nos. 10, 11, 12, 13.

The amount of light supplied to the lavatories and waterclosets is very considerable, each watercloset has a window, and the lobbies are well lighted in addition. Light coloured surfaces have also been adopted wherever possible. The main object being to ensure that if these places are made receptacles for dirt or rubbish, the inspecting surgeon or other officer shall at once detect it.

Each ward has its own administrative offices placed at the entrance. These offices consist of a nurse's room, containing a bed, and having a small inspection window into the ward, and a ward scullery containing a small range for warming drinks, &c., a closet warmed by a coil of hot-water pipes for airing ward linen, and a small sink of fire-clay glazed white to ensure its being kept perfectly clean, for washing tea-cups, plates, &c., the waste-pipe from which is carefully guarded in the manner already described. (Drawings Nos. 9 and 13.)

One great advantage of the pavilion method of construction is, that it suits itself readily to any form of site. It is very advisable, however, wherever it can be accomplished, that the axis of the pavilions should run north and south. The advantage of this arrangement is, that the sun shines alternately on each side of the pavilion during the day, and that the early morning sun enters the wards. During the heat of the day the side windows are not exposed to the sun. The axis of the pavilions of the Herbert Hospital lies N.N.E. and S.S.W., as has been already mentioned.

A regimental hospital can be constructed of one pavilion only, or of two pavilions joined end to end, and such a double pavilion should not contain more than 100 to 130 beds, with two floors of wards. The double pavilions are connected in the centre by a staircase and lobby which should be carefully ventilated by windows, and warmed in winter so as to prevent any probability of the impure air from one ward passing into the other wards in the same double pavilion.

In the new military hospitals hitherto constructed the stairs and landings are of stone, in conformity with the recommendation of the Royal Commission; but in the Herbert Hospital the ward, and ward passage, and lobby floors have been made fire-proof, and, except the central staircase, which is of stone, the staircases have been made of iron (as shown in Drawings Nos. 18 and 19), with oak treads to the steps, as it is considered that wood when it can be combined with a fire-proof arrangement is better for the sick to walk on. All the staircases for the ward buildings are specially designed for ease of ascent. The risers are rather more than $4\frac{5}{8}$ in. in height, and the treads $12\frac{3}{4}$ in. wide with $1\frac{1}{4}$ in. nosings. The width of the stairs is 5 feet, except in the central pavilion where it is 8 feet in the first flight, and 5 ft. 9 in. in the return flights.

General hospitals require to be built of a number of separate pavilions independent of each other, but connected for administrative purposes.

Each pavilion, so far as the patients are concerned, should be a separate hospital, and the administrative connection between them should be kept up in such a way as to prevent interchange of the air from the wards in the different pavilions.

In arranging the pavilions or blocks, if these are to be placed parallel to each other, the distance between the blocks must be such as to afford a fair share of light in the lower wards, and to allow the sunshine to fall on each side of the lower wards for at least a couple of hours in winter. In this climate a distance of about twice the height of the pavilion measured from the lower ward floor to the eaves of the roof will secure this; but the light in the lower ward is very much assisted by using a light coloured brick for the outside of the ward walls of the hospital.

The arrangement of pavilions to be adopted will depend of course upon the nature of the ground; in the Lariboisière Hospital the pavilions contain one large and one small ward on each of three floors, and are at right angles to a corridor which runs on the ground floor round three sides of a square, which forms an exercising ground.

In the case of the Herbert Hospital some of the wards are placed in double pavilions and some in single pavilions, and the pavilions are ranged at right angles to a corridor running in a straight line from east to west; this method was adopted in the first instance as the best way to occupy the ground, which was the only site

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which could be obtained within reasonable distance of the garrison, but the facility for administration which this plan affords is very great.

It is essential that there should be as free a circulation of air as possible between the pavilions, and that the spaces between the pavilions on the northern side should obtain as much sunshine as possible. In order to secure this object in the Herbert Hospital the corridor joining the wards is made like a glazed arcade, and connects the ground floor only; the upper wards being reached by staircases in each pavilion; besides which the three centre pavilions are single pavilions running out towards the south, and leaving a large area on the north free from wards, and occupied only by the block containing the kitchen in the basement, the library on the ground floor, and the chapel on the first floor, and by the small projecting buildings behind pavilions C and E containing the dispensary and baths. The roof of the corridor along this space, that is between pavilions B and F, is carried on the level of the upper ward floors, so that patients occupying the upper wards could be wheeled out on to the terrace roof in their beds in summer into the sunshine, Drawing No. 14; but between the double pavilions A and B, and F and G, at each end, the corridor is only nine feet high, so that it shall intercept the sun's rays as little as possible from the two courts between these pavilions on the north side. (Drawing No. 7.)

Each pavilion has thus its own staircase; this is warmed by hot-water coils, and ventilated by windows in the upper part. Each staircase on the ground floor is cut off from the adjacent corridor by swing doors, and the portion of corridor between adjacent pavilions is warmed by hot-water coils and ventilated by fresh air admitted through the coils; thus the ventilation of the corridor effectually cuts off the possibility of impure air passing from one pavilion to the other, a cheerful and warm exercising place is provided for the patients in winter, and the chance of draught in the corridor is diminished.

The patients' day and dining room and library are in pavilion D on the ground floor, opposite to each other; the latter is over the kitchen. Above the library, on the first floor, is the chapel, calculated to accommodate 300 convalescents. The main entrance to the chapel is from the principal staircase in pavilion D; an entrance for the chaplain is provided at the other end through the vestry. The chapel and library are warmed by hot-water pipes. There is an entrance to the garden terrace on the south front of the hospital, from the south end of the dining room, and there are also entrances to the garden for patients between pavilions AB, BC, CD, as well as an entrance from building H.

The principle of separating the administrative part of the building from the sick wards has been carried out as far as possible; this has been done for the double purpose of protecting the sick from unnecessary noise, and of keeping the ward atmosphere pure. And one of the most important features in the construction of the Herbert Hospital is the arrangement which has been adopted for securing economical administration.

In explaining how the administrative portions of the building have been arranged, it is necessary to state briefly the method in which the Herbert Hospital will be administered, in order to show the relation which exists between the structure of the building and its current use.

In a preceding page will be found a list of the officers employed in administering the hospital; their duties are laid down in Section VIII. of the new medical regulations. These regulations, though more especially intended for general hospitals during war, admit of being adapted to home circumstances in such a manner that they can be expanded for field service without adding new duties.

The governor is an officer specially selected by the Secretary of State for War. He is specially commissioned, but placed under the authority of the officer commanding the forces. The governor has supreme control over all matters connected with the condition, efficiency, discipline, the providing of supplies, of medicines, the hiring of labour, transport, equipments, or materials; when necessary, the execution of repairs and sanitary improvements, maintaining a sufficient supply of stores and equipments for present use, or to meet prospective requirements by requisition or purchase. He is responsible for the finance and expenditure of the hospital, and for the proper administration of the different departments. He can suspend officers, subject, however, to appeal to the Secretary of State for War, except in the case of the medical officers and the superintendent of nurses, in whose cases appeals lie to the Director-General of the Army Medical Department and Superintendent General of nurses respectively. In order to keep up the general superintendence required, the governor is provided with an office and clerk's room (M and N, Drawing No. 4, administrative block,) overlooking the main court of the hospital, and between 50 and 60 yards distant from the centre of the hospital. His quarters, consisting of six rooms, are on the floor above, and have a similar outlook. He

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is also provided with a servant's room or kitchen in the basement. The office and quarters are connected with the hospital by an iron corridor with a glass roof.

The offices allotted to the various heads of departments under the governor are close to his own office; and it is of importance to remark that none of these departments has authority over, or right to interfere with, any other in disciplinary matters. Every requisition or complaint must come up to the governor, and from the governor the decision goes direct to the department concerned.

The following are the departments under the governor:—

1. The *Medical Department*, administered by the principal medical officer, who is appointed and removable by the director general, and acting under his directions. The principal medical officer has control over every thing belonging to the medical care and treatment of sick and wounded men, and issues all necessary instructions on those duties to medical officers, apothecary, dispensers, dressers, &c. He appoints orderly medical officers; he superintends the treatment of the sick and wounded; he examines the quality and cooking of the diets; also the clothing, bedding, and comfort of the sick; he is responsible for the state of supplies, medicines, medical comforts, medical and surgical appliances; he makes out the necessary lists and requisitions, and sends them to the governor. The principal medical officer reports all defects or neglect of duty to the governor. The principal medical officer has an office and clerk's room (O, P, Drawing No. 4, administrative block). Quarters are not provided for him, as he is not required by regulation to reside within the precincts of the hospital.

An orderly medical officer must always reside within the precincts, and his quarter is on the first floor of the administrative block M, N, O, Drawing No. 5. The daily medical attendance will of course be carried on by surgeons of brigades and batteries, as at present. No quarters have as yet been provided for these officers, who live at Woolwich, where much of their regimental duty has to be performed, and where there is accommodation for receiving the patients before sending them to the Herbert Hospital.

Patients will be admitted to the hospital on the right hand side, ground floor, of the administrative block, where there is a suitable waiting room, examination room, and surgeons' room (C, D, E, Drawing No. 4), connected by a covered glass verandah with the general bath room, 50 or 60 yards distant, and with the ground floor of the hospital.

Under the principal medical officer is a registrar who keeps the statistical records of the hospital, and is provided with a room, R, properly fitted up for the purpose.

The apothecary or dispenser is responsible for the care of medical stores and the correct dispensing of prescriptions. He is provided with quarters, J, K, L, first floor, administrative block. (Drawing No. 5.)

The pharmacy, drug store, and dispensary are within about 50 yards of his rooms, and occupy the small block behind pavilion C. (Drawings 3 and 4.)

There is power to appoint a special sanitary officer to attend to the sanitary state of the hospital, but this officer would only be necessary during war.

2. The *Purveyor* or *Steward* receives his instructions from the governor, to whom he is solely responsible. He provides all equipments, stores, diets, medical comforts, supplies, furniture, and utensils, according to the fixed scales. He may, if necessary, make contracts to supply the hospital, and he makes out, for the use of the governor, any estimates or lists of articles of supply which the governor may call for. He has the charge of all hospital stores, except medicines; he keeps the books of the store and supply department, and has the custody of soldiers' clothing and property while in hospital.

His office where he receives the contractors' supplies is on the ground floor (a, b, c) of the centre pavilion, close to the main entrance through the administrative block. There is a lift from the steward's office to the kitchen, so that all provisions after having been received at the entrance of the hospital and examined and weighed by the steward, can be at once passed to the kitchen. By this arrangement it will be unnecessary for contractors' servants to enter the interior of the hospital. (Drawing No. 4.)

3. *Paymaster*. Some of the duties of this officer are specially adapted for field service. Under such circumstances he would receive, keep, and pay the funds necessary for the hospital expenditure, subjecting the accounts of the purveyor to a preliminary audit. At all times he will keep the accounts, and be paymaster of sick or convalescents, of officers of the establishment, orderlies, nurses, cooks, &c.

The paymaster's office is at X, Y, ground floor, administrative block. (Drawing No. 4.)

4. The *Chaplain* attends to the religious instruction of the sick. His quarter is close to the chapel, with which it communicates through the vestry. (Drawings Nos. 5, 6.)

5. *Captain of Orderlies*, who is head over the entire orderly service of the hospital. Explanation of the Manner in which the Principles of Administration have been applied.
cording to recent arrangements orderlies are selected by commanding and medical cers, put on probation, and, if found fit, are trained partly in regiments, partly at tley, and are drafted into the army hospital corps, of which the head-quarters are re. These orderlies are divided into two branches:—

1st. The Medical, which supplies the usual ward attendance on the sick.
2nd. The purveyor's branch which supplies storekeepers, cooks, washers, servants, &c.

The usual allotment is one orderly to ten sick, with non-commissioned officers ard-masters), besides the non-commissioned officers and orderlies of the purveyor's partment. The captain of orderlies is responsible for the discipline and efficiency of whole of this establishment. He distributes their duties, attends to the discipline of wards, makes out lists of ward and kitchen equipments, &c., and is responsible for all rd furniture, when issued to him. He sees to the distribution of the diets, to the airs, lighting, ventilation, warming, and cleanliness of the wards; he looks after the oking apparatus, fuel, and cooking; he pays wages to his staff; he receives from the rd-masters the diet roll of each ward, and sees that the rolls are complied with; he ends also to the washing, and provides clean linen and bedding for the sick.

The captain of orderlies must reside within the hospital precincts, and has quarters igned him on the ground floor of the administrative block S, T, U, which has an trance into the staircase leading to the orderlies' rooms. (Drawing No. 4.)

The ward-masters attend to the discipline of the wards, and to the efficiency of orderly service by day and by night, under the direction of the captain of derlies.

The number of ward-masters depends on the construction and arrangement of the spital. A smaller number will be required for the Herbert Hospital than would ffice for most hospitals, on account of the great facility of supervision, for the ward- aster, in going his rounds, can in the larger pavilions see no fewer than 64 patients, th the orderlies in attendance on them, from one single position.

The orderlies are quartered in barrack rooms occupying the whole of the second floor the administrative block. (Drawing No. 6.) Their quarters contain an ablution- om, bath-rooms, waterclosets, and night urinals. They are designed to afford 600 bic feet of space for every occupant, and are ventilated according to the principle of ntilating soldiers' barrack-rooms required by the Barrack and Hospital Improvement mmittee; that is to say, they are furnished with extracting flues for foul air, inlets rect from the open air placed near the ceiling for admitting fresh cold air, and they are ovided with the ventilating grates described in drawing No. 22 and Appendix No. 2. ey have their own staircase, (V, Drawing No. 4.) connecting these rooms with the vered verandah leading to the hospital. Opening into this staircase on the ground-floor quarters for a serjeant-major, and at the top of the staircase are quarters for non- mmissioned officers, the arrangements being such as to preserve discipline. The ircase is continued down to the basement and an underground passage leads from the ntre of the basement of the administrative block to the basement corridor of the main spital building, so as to give access under cover to the orderlies' dining-room, and the orderlies' barrack-rooms as well as to the officers' quarters and offices. It is ended that the orderlies on duty at the time of dinner should dine in the ward lleries. The other orderlies will dine in their own dining room, which is in the base- nt at the western end of the block (M, Drawing No. 3.) easily accessible from the chen by means of the passage before mentioned. As will be seen from the sections rawings 7 and 8), the general enclosure of the hospital to the north of the ward rtion is on two levels or plateaus. The eastern plateau, which extends to the western d of the building M, is on a level of 4 feet below the ward floors, the adjacent rtion of the western plateau being about 8 feet below that level, and the basement ry for this portion is therefore above the ground level; an opening from the orderlies' ing room, on its western side, leads directly on to the latter (or lower) plateau.

6. *The Superintendent of Female Nurses.*—The Herbert Hospital is to be nursed by male nurses under a superintendent. The superintendent takes charge of the clean en and mending; she apportions and superintends the duties of the nurses in accordance th a special code of regulations drawn up for her guidance. The nurses are intended occupy the position of ward-sisters in civil hospitals. The nurse in charge of a ward ends the medical officer on his visits, receives, and sees to the carrying out of, or rsonally carries out, his orders regarding the administration of medicine, medical mforts, and the preparation of sago, arrowroot, and similar articles. The ward orderlies bound by regulation to obey the nurse in carrying out the orders of the medical

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officer, she reporting, either directly or indirectly, any disobedience or breach of discipline to the orderlies' superior officers.

It is highly probable that in practice one ward "sister" will be found sufficient for two wards on the same floor, in all 64 beds.

The accommodation provided for the nursing establishment consists of two parts:—viz., 1st., the quarters for the nurses, including the clean linen store; and 2ndly, the accommodation adjacent to the wards necessary for ward administration.

The nurses quarters occupy the whole of the first floor on the west side of the administrative block. On this floor there are rooms for the superintendent of nurses her office, nine small separate rooms for nurses, kitchen, accommodation for sick nurses &c. (S to Y, drawing No. 5.) They have an entrance to the covered arcade which leads to the ward portion of the hospital, by the side of the bath-room.

On the ground floor (drawing No. 4, F, H, I) are situated the clean linen store of the hospital, where all the clean linen is received, mended in an adjacent room, stored under the charge of the superintendent of nurses, and given out for ward use. The whole of this portion of the administrative block is within its own door.

Coal and other articles can be supplied to the nurses' quarters by means of a lift.

To ensure efficient ward administration each ward has its separate nurse's room and separate scullery. The scullery is intended amongst other things for washing, cleaning, and keeping the ward crockery, and other apparatus. For this purpose it is supplied with a glazed earthenware sink, with hot and cold water laid on. There is a specially constructed fire-place for preparing small articles of ward cooking, keeping diets and drinks hot, preparing fomentations, poultices, &c. There is also a closet heated by hot water pipes for warming and airing bed-linen and patients' linen.

Daily Hospital Service.

In working the hospital, patients will be received in the following manner: Close to the barracks at Woolwich there is an existing building which, with trifling alterations will afford every accommodation for the medical officers of brigades to receive and examine their own sick. All men reported sick will present themselves there. The same building contains space for a few beds, intended for the reception of patients taken suddenly ill through the night. When the reception is over, the sick admitted will be sent up to the Herbert Hospital by ambulance, or those who are able will walk. On arriving there they will enter the waiting room, and be received into hospital in the usual way, after a record of their cases has been entered. From the examination room the patient will proceed, under cover, to the general bath-room and dressing-room, where after bathing, he will receive a suit of hospital clothing, his own clothes and property being carried down by the small special staircase to the pack store. He will then be taken to his ward.

All the cooking, except in an emergent case of rare occurrence, will be done in the kitchen, in conformity with the ward diet-rolls, sent to the cook by the captain of orderlies. The diets will be cut up on a hot plate close to the serving windows, which open upon a lobby connected with the basement or service-corridor of the hospital. At these windows the diets made up according to wards will be delivered to the orderlies who will convey them to the lift appropriated for each pavilion. The trays will be placed on the lift, and a signal made to the orderlies of the wards above. The water pressure will then be turned on until the lift arrives at the doors on the floors above, when the diets will be removed from the lifts by the ward orderlies and carried direct into the wards. After dinner the dishes will be sent down by the same means. But instead of being returned to the kitchen they will be carried to a separate window, where they will be received and taken into the kitchen scullery to be cleaned for further use.

So short a time will elapse between the issue of the diets in the kitchen and the reception in the wards that there will be no danger of their becoming cold.

Medicines will be conveyed to the sick in a similar manner. The pharmacy, drug store, and dispensary, as already stated, are situated in a small pavilion connected with the basement-corridor. The medicine trays, containing the made-up prescriptions, will be given out at the dispensary window, which opens on to the corridor, and carried by orderlies to the lifts, to be sent up to the respective wards, where they will be received by the orderly in attendance.

All the fuel required for the wards will also be sent up, in specially constructed boxes by the lifts. The coal store is under part of one of the courts, and is connected with the basement corridor, but has a separate ventilation.

The clean linen required for the day's use will be received by the orderlies over the counter in the linen store, and carried under cover into the ground floor corridor, whence it will be distributed to the wards on the different floors by the pavilion staircases.

The foul linen will be sent down to the basement separately from each pavilion by means of the shoot, and will be received into small well-lighted and ventilated closets, whence it will be collected and carried to the western end of the basement corridor, and discharged through a door into a cart, which will convey it straight to the laundry on the opposite side of the Dover Road. After being washed the linen will be returned, as already mentioned, to the clean linen store. Daily Hospital Service.

The ward ashes will be sent down from each pavilion in the lift, and dust from the sweeping of the wards will be sent down the dust shoots at each pavilion, and received in the basement corridor into an iron hopper, whence it will be emptied by pulling down the door of the hopper into a box on wheels, and taken to the western end of the basement corridor to be discharged into the dust cart.

The speaking tubes, signal bells, and bells generally, which have been provided at each pavilion between the several ward floors and the basement, and which have already been described, will enable bell signals to be made, and verbal communications to be carried on for all required purposes between the staff to be allotted for duty in each ward and the staff to be allotted for duty in the basement.

Conclusion.

It will be seen from the foregoing description that the principles upon which the Herbert Hospital has been constructed were those laid down by the Royal Commission on the Sanitary State of the Army in 1857, further developed by the Barrack and Hospital Improvement Committee; and embodied in the Medical Regulations of the Army of 1858. In designing the plans for the hospital and the contingent arrangements according to those principles, I was assisted by Mr. R. O. Mennie, Surveyor of Works to the War Department. The plans were examined in detail by Lord Herbert, and submitted by him to Miss Nightingale, whose practical experience was of great assistance in the design. They were further submitted to and received the concurrence of the Director General of the Army Medical Department and of the Barrack and Hospital Improvement Committee. Captain Newsome, R.E., superintended the works as executive officer under the Commanding Royal Engineer, who was at first Colonel Ford, R.E., and latterly Colonel Hawkins, R.E., and he was assisted by Mr. Ware, Mr. Parry, and Mr. Tait, clerks of works. Messrs. Myers and Son were the contractors and executed the work in a satisfactory manner. Mr. Homersham, C.E., was employed to design and superintend the construction of the reservoirs for softening water placed on Shooter's Hill. Conclusion.

The advantages which the principles of hospital construction embodied in the Herbert Hospital afford may be briefly summed up as follows:—

1. Limitation of the number of sick under one roof.
2. Complete separation from each other of the wards containing sick.
3. Abundance of fresh air and ventilation in every part of the building allotted to sick.
4. Complete separation of the ward offices from the wards.
5. The use of non-absorbent surfaces in the wards and ward offices.
6. Abundance of light, as well as light-coloured surfaces, especially in the ward offices by which cleanliness is promoted
7. Facility of administration.

These principles have also been adopted in the small regimental hospitals of Hounslow, York, Fleetwood, and Hilsea, designed under the instructions of the Barrack and Hospital Improvement Committee.

The Barrack and Hospital Improvement Committee in thus developing the principles of hospital construction do not claim to have adopted, except in details, much that is positively new; but they do claim to have embodied, and to have worked into each other, with such improvements as experience and consideration dictated, the best points in the best existing civil and military hospitals both at home and abroad. The small regimental hospitals constructed on these principles have fully answered their purpose. In the Herbert Hospital we have for the first time a building for nearly 650 sick, consisting of separate pavilions, each no larger than a regimental hospital; and there is every reason to expect that in it the nation has a building possessing all the advantages of administration which can be afforded by the consolidated establishment of a large general hospital, combined with all the sanitary advantages of a small regimental hospital.

I have the honour to be, my Lord,

War Office,
19 June 1865.

Your obedient Servant,
DOUGLAS GALTON.

APPENDIX No. 1.

List of Drawings, &c.

1. Block plan, showing ground.
2. Isometrical view, showing general arrangement of buildings.
3. Plan of basement, showing drainage.
4. Plan of ground floor.
5. Plan of first floor.
6. Plan of second floor.
7. Section of terrace with elevation of ends of pavilions, and section of corridor, showing levels of boiler-house, kitchen, &c.
8. Elevation of front building, with ends of pavilions, showing levels.
9. Plans of double pavilion, showing wards.
10. Plan of lavatories, &c. at end of wards.
11. Section of lavatory, plan and section of vapour bath, plan of hot-water coils, drawing of scraper, plan of hollow external walls.
12. Section of valve watercloset plan, elevation and section of washing basins, plans and elevation of foul linen, and dust shafts. Plan and section of sink for emptying portable bath.
13. Plan and sections of slop-sink; drawing of bath. Plans and elevations of urinals.
14. Elevation and section of dust shoot; plan, &c. of ward, gas pendants. Plan and elevation of ward scullery sink, drawing of arrangement for wheeling patients out on to corridor.
15. Plan, section and elevation of ward, ventilating fire-pla and of internal soot-doors from ward flues.
16. Plan and sections of flues from ward ventilating fire-place drawing of oak skirting of ward floors.
17. Plans and sections of ventilating shafts.
18. Section of ward staircases.
19. Details of ward staircases.
20. Plans and sections of hydraulic lifts.
21. Plan and section of boilers and engines, &c. for hydrau lifts.
22. Plans, &c., showing arrangement of ventilating grate offices, officers' quarters, &c.

Water Supply, Buildings, &c.

23. Block plan, showing drains, pipes, &c.
24. Ground plan of buildings.
25. First floor plan (below gallery).
26. First floor plan (above gallery).
27. } Sections through reservoirs.
28. }
29. } Elevations of building.
30. }

Washing Establishment.

31. } Elevations, plan and section of washing establishment,
32. }

APPENDIX No. 2.

Description of the New Pattern Ventilating Stove, with Explanation of the Mode of fixin (*See* Drawing No. 22.)

The Stove is of the best cast iron, manufactured by Messrs. Kennard of 67, Upper Thames Street, London, in three pieces, properly connected by screws. The first piece forms the moulded projecting frame; the second, the body of the grate; and the third, the nozzle or connexion with the smoke-flue, the bottom flange of which is bolted to the back of grate as shown in Section, fig. 2.

The Stoves are of three sizes.

The *largest* has an opening for fire of 1 foot 9 inches wide, and is for rooms containing from 8·400 to 12·000 cubic feet, and weighs about 3 cwt. 1 qr. 10 lbs.

The second, or medium size, has an opening for fire 1 foot 5 inches wide (as shown on the drawing), and is for rooms containing from 3·600 to 8·400 cubic feet; it weighs about 2 cwt. 3 qrs. 5 lbs.

The third, or smallest size, has an opening for fire 1 foot 3 inches wide, and is for rooms containing 3·600 cubic feet and under; it weighs about 2 cwt. 2 qrs.

Figures 1, 2, and 4 show an elevation, section, and plan of the second or medium size stove, the extreme dimensions of which are 40 inches wide by 42 inches high; the breadth of the fire being 17 inches on the front line.

The fire-place has a lining of fire-lumps in five pieces; two sides, one back, and two bottom pieces, moulded to the form shown on the drawing

The bottom is partly solid, being made of two fire-lumps, placed on each side and supporting an intermediate cast iron fire grating; by this means, whilst the draught is checked and the consumption of fuel reduced, a sufficient supply of air for combustion at the bottom of the fire is obtained. A clear space half an inch deep is formed between the back lump and iron back to receive a supply of air through the ashpit under the grate, which passes through a slit in the fire-lump immediately above the fire. The air thus brought into contact with the heated coal is received at a high temperature in consequence of passing through the heated fire-lump, and is forced into contact with the gases from the coal by means of the piece of fire-lump which projects over the fire at the back of the grate, and thus a more perfect combustion of the smoke is effected than with an ordinary grate.

The flame, heated gases from combustion, and smoke are compelled, by the form of the back of the grate and the iron part of the smoke flue, to impinge upon a large heating surface, so as to extract as much heat as possible out of them before they pass into the chimney, and the heat thus extracted is employed to warm air taken directly from the outer air. This air is warmed by the iron back of the stove and smoke-flue, upon both of which broad flanges are cast, so as to obtain a large surface of metal to give off the heat.

This giving-off surface is sufficient to prevent the fire in the grate from ever rendering the back so hot as to burn the air it is employed to heat. The fresh air after it has been warmed is passed into the room near the ceiling by the flue shown in the drawing. The object of admitting the fresh warmed air at the chimney breast, and near the level of the ceiling, is because at that point it flows most easily into the currents which exist the room; as it is found by experiment that in a room with open fire, and with the doors and windows closed, the current air is drawn along the floor to the fire, where a portion pass up the chimney, but the remainder is carried up the chimn breast towards the ceiling, near which it passes till it approach the end of the room furthest from the fire, when it again d scends to follow the same course.

The recess in which the ordinary stove is fixed forms t chamber in which the air is warmed.

In order to afford facilities for the occasional cleansing this chamber, and those parts of the air channels connect with it, the front of the stove is secured by screws, so th it can be easily removed, thus rendering the air chamb accessible.

The drawing Fig. 5 shows the method to be adopted fixing the Stoves in *old* openings, *i.e.*, in fire-places whi now have the ordinary old pattern 4 feet ranges; the pa strongly hatched being brickwork, built in cement, and toot in the old jambs. The air chamber is to be left as large possible, thoroughly cleansed from all old soot, and render with cement and lime-white. Should the fire-place be deep than 1 foot 6 inches, which is the depth required for the curv iron smoke flue, then a lining of brickwork is to be built at the back to reduce it to that dimension.

The chimney-bars, if too high, must be lowered to suit t height of the stove, or to a height above the hearth of 3 fe 3 inches; they must also be straightened to receive the coverin of the air chambers.

These coverings should be of 3-inch York or other flaggi cut out as shown by the drawing fig. 6, to receive the curv iron smoke-flue, and also to form the bottom of the warm ai flue in the chimney breast.

In new buildings the air chambers may be rectangular, shown by the plan of drawing fig. 4; they must be 4 inch narrower than the extreme dimensions of the stove, so as give a margin of 2 inches in width all round for a bedding hair mortar.

From this air chamber the air is conducted into the roo by a shaft shown by dotted lines, in elevation fig. 3, and section in figs. 9 and 10.

The air and smoke-flues in the chimney breasts must formed as shown by the dotted lines in drawing fig. 3; th smoke-flue is to be left the ordinary size, about 14 inches × inches. In fixing the iron smoke-flue to the body of the stov the flange must be bedded in red lead, to make it smoke-tigh The air-flue is to have an area equal to one square inch every 100 cubic feet of contents of the room. This air-fl must be carefully rendered inside, and made quite air-tigh by having the brickwork between it and the smoke-flue chase into the wall at the back, and bonded into the work forming t front of the chimney breast.

The opening left for the air-flue in the covering stone is t be only two thirds of the area of the flue itself, for the purpo of checking sudden gusts of wind.

The air-flue is to be terminated by the louvre described in the Circular Memorandum, dated 20th May 1862 $\frac{\text{I. G. F.}}{20}$ General No. $\frac{2}{2685}$, which should be fixed about 6 inches from the ceiling.

In cases where the stoves are fixed in rooms which have open roofs, the louvres should be placed about 11 feet from the floor line.

In rooms on the second floor of a building it frequently happens that all the smoke-flues are gathered towards the centre of the chimneys, so that there is not sufficient room for the formation of the air-flue, as described in the drawing fig. 3; in such cases, if there should be a depth from the chimney breast to the back of the smoke-flues of 22½ inches, the air-flue may be brought altogether in front, as shown by the drawing fig. 7; but should there be not more than 18 inches, an addition of half a brick may be made to the chimney breast.

The mode of admitting the external air into the chamber in rear of grate will depend on the locality of the fire-place.

If the chimney be built in an external wall, the air may be admitted through the wall at the back, though not in a direct manner, but as shown by drawing fig. 11. The total area of this inlet must be the same as the air-flue, viz., one square inch for every 100 cubic feet of contents of the room, and the external dimensions of the grating covering it the same.

If on the floors they should be made of 1 inch deal, if under the ceilings of ¾ inch deal, or if under the ground floor, where there is no basement, of glazed terra cotta pipes. Where pipes are used they should be laid with chairs or saddles, so that access to them may be readily gained; and where deal is used they must be invariably wrought inside, and ploughed and rebated at the angles.

In all cases some part or parts of these ducts must be made easily removable, by being fixed with screws, for the purpose of being periodically cleansed.

In determining the positions of the inlet ducts for fresh air, it will be desirable that they should open on the south or west sides of the buildings, if possible, away from gully gratings or nuisances, and be raised at least 2 feet from the ground.

DOUGLAS GALTON,
Assist. Inspector-General of Fortifications.

May 1862.

APPENDIX No. 3.

Specification for the Erection of the Herbert Hospital on Kidbrook Common, near Woolwich.

This Specification provides for the erection of a Military Hospital on the site recently acquired by the War Department near Shooters Hill, in accordance with the drawings numbered 1 to 230 inclusive, which are open for inspection at the War Office. The General Plan No. 1 is an accurate survey of the ground, with its various boundaries, roads, &c., as at present; the contour lines are in blue, and have reference to the various levels which are indicated by red figures. The whole of the levels have reference to a bench mark 249 feet above the Ordnance datum, and a plane extending from this mark and shown on all elevations and sections by a red line, is the working datum to which all levels and figures refer which may appear on the various drawings.

Plan No. 2 is intended to show the general arrangement of the proposed building when finished, with the various walks, roadways, terraces, garden beds, boundary walls, &c., &c., adjacent or belonging to it.

Plan No. 3 shows the general system of drainage, divided into three sub-systems, one of which is also composed of two subdivisions, these are indicated on the plan by different colours, thus;—the surface joining into the foul water and soil drainage is coloured red; the rain water from the roofs is coloured blue; and the foundations and land drainage yellow: the first mentioned is conducted into the newly-constructed main sewer falling into the Thames; the second is brought into a large covered tank; while the third is turned in an opposite direction, and after leaving the Hospital site, finds its way by open ditches, &c., to Lee.

Plan No. 4 shows the gas mains and general distribution of same at basement level, while the upper floors are marked respectively 4*a* and 4*b*.

Plan No. 5 shows the supply and distribution at level of basement of the water for use of the Hospital, the upper floors being marked respectively 5*a* and 5*b*. In these plans the cold service is coloured blue, the hot service red, and the coils and heating system yellow.

The remainder of the drawings show the general structure and arrangement of the building in plan, section, and elevation, and are to be accurately followed and adhered to. In all doubtful cases, the large scale sections to be preferred to the smaller ones, and figured dimensions to those shown only by scale, but in all cases the decision to rest with the Superintending Officer, or the Commanding Royal Engineer.

The hot and cold water services, fire-main and heating services, together with the machinery, engines, lifts, and pressure pipes for working the same, and also the gas service, will be subsidiary contracts. But the Building Contractor is to render every assistance required in carrying out the same, and is to execute all brickwork in shape of wells, tanks, engine beds, &c., which may be required of him, and to work as far as possible in unison with the other Contractors for the due advancement of all.

Subsidiary contracts will likewise be made for a wire fence as shown on General Plan; for planting borders near boundary walls, for a clock to be fixed where shown, and for these or any others entered into hereafter, the Contractor is to provide any labour or assistance required for the due execution of the same.

For these subsidiary contracts, as well as for Water Reservoirs to be erected on Shooters Hill for the supply of the Hospital, distinct specifications and sets of drawings have been prepared, and are headed in accordance with the respective services.

Excavator.

ART. 1. Perform all ground work necessary for the clearing of the site in and about every part of the enclosure, and remove to spoil, as may be directed, all brushwood, furze, stumps of trees, and other substances likely to interfere with the progress of the work. Clearing ground, digging, and filling in and levelling, &c.

Execute all digging to the several required lengths, breadths, and depths for all foundations, sewers, drains, drain-pipes, cesspits, slopes, terraces, trenches, areas, tanks, wells, vacancies under floors, making up and filling in of hollows, &c., and the removal of groundwork generally, and levelling and ramming where the several buildings, yards, courts, &c., require for the completion of the whole; and also for all other works which require the ground to be excavated, levelled, removed, made up or filled in, &c., to the lengths, breadths, and depths shown or figured on the drawings herewith given, or hereafter to be given.

Art. 2. All earth or rubbish arising from the several levellings and excavations on and about every part of the site is to be removed and placed in such situations on the ground as are required to be raised or levelled, or to fill in the hollows or variations of levels about the buildings, or to form the various terraces, slopes, levels of roads, footways, courts, yards, &c., as may be indicated on the several drawings, and wherever the Superintending Officer may direct. Removing earth and rubbish.

Art. 3. The whole of the inner court, entrance roadway, new footways, terrace, garden paths, and all other parts shown in yellow colour on Drawing No. 1, are to be formed in the manner shown, with all necessary currents, and to the several lengths and widths indicated or figured on the Plans, to be covered with a 6-inch coating of burnt clay, as described in Article 8, properly rammed down and consolidated with 4 inches of gravel thereon, well rolled, and to be left in every respect complete and perfect. The terrace and garden walks to have a fine coating of gravel, 1 inch thick, laid over the coarse gravel, well rolled, any superfluous earth that may accumulate is to be cleared and carted away, or to be laid on such portions of the inclosure as may be directed, and at the completion of the works the premises are to be left perfectly clean and clear. Roadways, paths footways, courts, &c.

Art. 4. The whole surface of the gardens between the pavilions and in other parts, indicated on Plan No. 1 by a brown tint, is to be properly formed, raised, or sunk, and levelled as may be directed, and is to be covered with good vegetable soil to a depth of not less than 2 feet. The Contractor is also to provide at his own expense and sow sufficient quantities of rye-grass and white clover seed for those parts shown on the same Plan by a green tint, such seed to be in all cases sown in not less than 1 foot 6 inches of vegetable soil, or form beds with turf borders, as may hereafter be directed. Gardens.

Art. 5. The formation of the several roadways, footways, terraces, garden paths, and gardens, to be executed at such times as may be directed by the Superintending Officer. Time of formation.

Art. 6. The backing of fence wall round the north-east portion of the inclosure to be of chalk rubble, hand-packed to the extent and in the manner shown on Drawing No. 84, to be covered with 8 inches of burnt clay to within 4 inches of the surface, which is to be of screened gravel as before described, the path to be laid and currented to curb as indicated. The backing, where not of chalk, to be of burnt clay as shown. Backing of fence wall.

Drains. Art. 7. The excavations for the several drains and drain-pipes to be made to the depths figured on Drawing No. 2, which figures relate to the bottom of the pipes in all cases; the bottoms to be levelled to a regular and uniform fall in each instance, and to be rammed solid wherever necessary.

Burning clay for roads, &c. Art. 8. The Contractor is to burn on the spot, at such times as shall be directed, sufficient clay earth for covering the terrace garden paths and footways with a layer 6 inches in depth. Fuel is to be provided for this purpose, and the material to be spread and rolled when required.

Bricklayer.

Brickwork. Art. 9. All the brickwork to be executed in the best possible manner with the best hard-burnt stocks, of perfect soundness; no soft, place, or inferior bricks will be allowed to be used.

Facings. Art. 10. The external walls of the Hospital buildings and front building to be faced with white Suffolk brick of approved quality, specimen deposited at the War Office, Pall Mall, properly bedded and bonded into the brickwork of walls; to be laid in Flemish bond, but no false headers will be allowed to be used.

The boundary and terrace walls to be faced with picked stocks, of uniform colour and shape, laid as described for Suffolk white bricks.

Bonders. Art. 11. The hollow walls to wards to have the external facing connected with main wall by means of Jenning's patent bonding bricks, as shown on Drawing No. 96.

Colours indicating brick and stone. Art. 12. All walls tinted red on sections, and yellow on the elevations, are to be built of brickwork; the stonework for plinths, quoins, columns, pilasters, architraves, archivolts, strings, blockings, balusters, parapets, and such like, being indicated by a brown tint in the sections and details referring thereto, and a description of which, with the different materials employed, will be found under the head of Mason's Work.

Bricks to be watered. Art. 13. The bricks in course of being used, as well as the brickwork in course of erection, shall, in the event of dry weather, be well watered at the Contractor's expense, when and as often as the Clerk of the Works or Superintending Officer may deem necessary for the stability of the work.

Bond. Art. 14. The whole of the external facing is to be carried up in Flemish bond, and the internal walls generally in English bond. False headers are never to be used, and no joint is to exceed one third of an inch in thickness; to be worked fair inside and flat pointed wherever it is to be whitewashed, and otherwise rough-drawn as a key for the plastering; every alternate course of the work to be thoroughly grouted with liquid mortar.

The brickwork is to be carried up regularly, and no part left more than 3 feet above any other parts, and to be truly levelled every 7 feet in height.

Hollow walls. Art. 15. The whole of the brickwork of the side walls of all wards to be built up from the level of the top course of footings to within four courses below the under side of eaves, with a cavity 3 inches wide, and nine inches from external face of wall, in the manner shown on the several sections and details; the brickwork to be bonded in such manner as to ensure perfect stability throughout.

Lime and sand. Art. 16. The lime to be used is to be the best Dorking or Halling, or other equally approved stone lime; it is to be used as fresh as possible, kept closely covered before used, and made into mortar with such clean, sharp water, river or pit sand, as the Superintending Officer may approve, free from saline particles, and all earthy and vegetable matter, thoroughly screened in the proportion of one-third lime and two-thirds of sand, or in such other proportions as may from time to time be ordered, thoroughly compounded and mixed in pug-mills, and made up in quantities only sufficient for immediate consumption; the water to be used for this purpose must be pure, fresh, and free from all loam, clay, saline particles, or vegetable matter.

To provide measures. Art. 17. The Contractor is to provide at his own expense such measures as the Superintending Officer may direct for ascertaining the proportions of the materials used, and to keep the same on the ground for the use of the Clerk of the Works.

Grout. Art. 18. The grout to be in the same proportions as, and of the same materials as, the mortar, mixed up as wanted in large tubs, and only used by pouring into the works from buckets with ladles, taking care that none is to appear on the exterior face of the walls.

Cement. Art. 19. The roman or other cements are to be of approved quality, to be used fresh, with perfectly clean-washed sharp sand, in equal quantities, except for linings of tanks, which are to be in two parts of cement to one of sand. Thirty-six bushels of cement to be calculated for every rod of brickwork, and no cement is on any account to be used after it is set or begun to set; in either case the Contractor is to remove the same from the works.

Concrete. Art. 20. The concrete is to be composed of perfectly clean gravel or ballast, free from loam, clay, vegetable, or other foreign substance or matters, with the proper proportion of sand and small stones, and unslaked ground, fresh well-burnt stone lime from Dorking, or other of equal and approved quality, in the proportion of six parts of gravel to one of sand, and one of lime measured dry, well compounded, as described for the mortar, brought to a proper consistency, mixed just before and as it is required for the works, thrown into the trenches while hot, and shot and distributed in even surfaces from a height of not less than 6 feet from the level of the concrete; to be well saturated with water in layers, not exceeding 12 inches in each layer, and to be completed and brought to a level surface before another layer is commenced. Concrete is to be laid under all walls to the several depths, widths, and thicknesses, shown on the drawings, the ground in all cases to be brought to a level surface for the reception of the same; concrete shall also be laid under all paving or flagging or asphalte, wherever shown on the drawings, in the filling in of spandrils of all brick arches, and in all floors wherever Fox and Barrett's patent is specified to be used, and which are shown in detail on Drawings of Fire Proof Floors; the concrete of these floors, however, shall be made with burnt ballast in lieu of shingle.

Extra co in found Art. 21. In consequence of the variations of the surface and the inequality of the soil, the depths, widths, and thicknesses of concrete, shown on the several drawings, may prove inadequate to ensure a perfect foundation. The Contractor is, therefore, to provide from time to time, as the trenches are dug, such extra quantity as the Superintending Officer or Clerk of Works may direct, which extra quantity will be measured and paid for as an extra, in accordance with the price in the Schedule of Prices accompanying this Specification; and should any deduction in the quantity of concrete, shown on the several drawings, be considered necessary by the Superintending Officer or Clerk of Works, such quantity will be measured and deducted from the amount of the Contract, in accordance with the Schedule of Prices above mentioned.

Art. 21 A. On the outer side of all trenches prepared to receive concrete, a brick drain of construction shown in drawings shall be formed, and proper connections made with same by means of 6-inch pipes, communicating with 9-inch main, carrying off water from foundations.

Air brick Art. 22. Provide and build in, where directed, for ventilation under floors and other purposes, wherever required, Jennings' patent terra-cotta air-bricks, equal to samples to be seen at the War Office, Pall Mall, and form flues for the same through the walls.

Moulded splayed b Art. 23. Provide and build in, wherever shown on the several drawings, moulded and splayed bricks of the same quality as the facing bricks for strings, plinths, bedmoulds, and impost mouldings.

Pipe drai Art. 24. The pipes to be used for the several purposes of soil, surface, and rain-water drainage are to be glazed stoneware of the tubular dimensions indicated on drawing No. 2, those of 6 inches and upwards to be chair and saddle pipes, as per sketch, the remainder to be socket pipes, jointed in roman cement and sand of equal proportions, and to include all proper bends, elbows, single and double junctions, and syphon traps, to be laid on an even bed with such falls as may be indicated on the Drainage Plans and Sections, or as may be directed by the Superintending Officer; the ground to be carefully rammed at every foot rise, and the surface earth to be put aside and used for finishing the ground level.

The main drain from A to B, shown on Plan No. 2, and from C to D, to be 12 inches in diameter, and from B to C and D to E 9 inches, the junctions at each point, and at the connection with the main sewer already constructed from the point *a*, to be carefully effected, and to be submitted for the approval of the Superintending Officer or Clerk of Works before they are closed in. The soil pipes to be 6 inches in all cases; the pipes from urinals, sinks, ablution rooms, baths, &c., to be all 4 inches, except when figured otherwise on the plan of the drainage. The rain-water pipes to be in no cases less than 4 inches, 6-inch pipes being laid for the mains, as shown on the same plan. All soil, urine, sink, and waste pipes to be trapped as per sketch, the trap to be made of glazed stoneware, in one piece, and to have a moveable stoneware cover. The junctions with the main drains to be carefully effected and tested before the ground is filled in. The pipe drains for the removal of the surface water to be 4 inches, and to be laid as shown on the Drainage Plan by yellow lines.

Gully trap Art. 25. Gully traps of glazed stoneware, of the shape and dimensions shown on Drawing No. 96, to be provided and laid wherever indicated on the plans, the earth to be well rammed on all sides, and the junctions to be carefully executed. To have square stoneware moveable covers perforated as shown, and dropped into the socket edge of trap.

Cess-pits. Art. 26. The cess-pits to be constructed where shown of 9-inch brickwork on 6 inches of concrete, of the dimensions figured on Drawing No. 96, and to be rendered inside with Roman cement; the dip stone to be 2-inch York, let into walls 2 inches at each side, and dipping into the water 4 inches, the curb to be of Purbeck stone 12″ × 6″ half-plain on beds, tooled on face and edges, plugged and jointed with cement, and rebated for iron gratings.

Drain at b boundary Art. 27. The drains shown on Drawing No. 84, at back of boundary and terrace walls, are to be 9-inch glazed earthenware pipe, laid with a loose joint and to a fall as indicated. Dry brushwood to be laid over the entire length of the pipe, and the ground made up as described under excavators' work.

Art. 28. The brick and stone work to be well bonded together, great care being taken to preserve the solidity and substantiality of the work.

Art. 29. Leave apertures in the walls for all doors, windows, archways, chimney openings, and apertures for ventilators, wherever shown, described, or directed, with all other apertures required, and to leave chases wherever required for the fresh air, foul air, rain, soil, water, gas, and steam pipes and tubes. Cut and perform in a workmanlike manner, all mortices, rail holes, and rebates, also chase and groove and point with cement, where necessary, for asphalte fillets, lead dressings, &c., and after other artificers.

Art. 30. The Contractor is to cover with tar and sand the hoop-iron supplied by the smith (No. 18 Gauge), and to fix the same in the building where directed. Two double tiers to be laid in each story (except where the fire-proof floors occur, for which provision has been made under the head of fire-proof flooring, and in the uppermost stories throughout), one double tier is to be laid immediately below the window-sills, and the other just below the ceiling line.

Walls 1 brick in thickness are to have 1 piece of hoop-iron in each tier, 1½ brick walls to have 2 pieces in each tier, 2 and 2½ brick walls to have 3 pieces in each tier, and walls of 3 or more bricks in thickness to have 4 pieces of hoop-iron in each tier. Each double tier of bond is to be laid in 3 courses of brickwork in cement, through the entire thickness in internal walls, and within one-half a brick of the face in external walls.

Art. 31. The shoots to beer and coal cellars are to be built in brickwork in mortar, as shown, and finished level on top to receive stone curbs.

Art. 32. Provide and lay in Portland cement, with a close cement joint, those portions of corridor, &c., indicated by a *brown* tint on ground plan, six-inch black, red, buff, and chocolate coloured tiles, ½-inch thick, in accordance with drawing, properly bedded on concrete in cement. The space within the communion rail to be paved with similar tiles, laid as above described. A portion of the above tile paving to be laid for approval previously to commencing the whole. See Drawing No. 105.

Art. 33. The arch over drying closet in wash-house to be formed of three courses of plain tiles in cement, laid to break joint, well bedded and cambered, as shown on drawing, and form all necessary openings in same for pipes, &c.

Art. 34. Set over all external door, window, and other openings, square, segmental, or semicular, as shown, gauged arches formed of moulded bricks, 15 inches on the face, except where otherwise shown as 9 inches or 12 inches in detail drawings, the joints worked the full thickness of the arch and soffit, and well bonded together. The joints are to be afterwards raked out and the pointing to be finished like the brickwork in connection with it. These bricks are to be similar and equal in quality to samples which may be seen at the War Office, Pall Mall.

Art 35. Turn brick arches over all door, window, and other openings, where required and ordered, rising 1 inch in each foot of opening, in half Roman cement and sharp river or pit sand and fresh water, within the exact thickness of the stone dressing from the external face of the wall, with proper cut skew-backs. The whole of the internal openings to be the whole thickness of the respective walls, turned with 3 half brick rings, except where otherwise shown on the several sections. All splayed arches over ward windows where supporting iron joists for fire-proof floors, to be strengthened with two iron lintels, set in the manner and of the dimensions shown on drawing.

Art. 36. Inverts to be turned under all openings, wherever shown on the plans or sections, in 3 half brick rings and of the full thickness of the respective walls, with proper cut skew-backs, and to have a rise of not less than 1½ inches to every foot of opening.

Art. 37. Turn discharging and relieving arches over all openings, and wherever directed or required for the security of the work, the segments to be neatly filled up and cut to backs, the skewbacks to be accurately formed and the backs rendered smooth.

Art. 38. Turn groin arches in cement over the coal cellar and under the entrance gateway, in half brick rings, and of the thickness shown on the drawings, with the groin points or arrises accurately cut, and the spandrils filled in flushed with concrete. The whole of the vaulting to be thoroughly grouted, in a solid manner with liquid mortar. The outer walls supporting groined arches of coal cellar to be tied together with 1½ inch wrought iron tie rods, properly supported to internal piers, and provided with screwed ends and nuts, for the purpose of securing the cast-iron shields of the form and dimensions indicated on drawing.

Art. 39. The arch over the passage of communication between the centre building and the hospital buildings is to be formed in three half brick rings in cement, and the spandrils filled in flush with concrete. The area windows are to be groined into the arch as shown.

Art. 40. The arches under staircase of No. 7 Pavilion to be formed in hollow brickwork, in two rings, the arches to spring from cast-iron girders, with proper cut skewbacks, and to rise 1½ inches in every foot.

Art. 41. Cut all splays and turn chimney arches in two half brick rings over all chimney openings, on wrought-iron chimney bars, 3″ × ½″ — Chimney arches

Art. 42. Put to each of the fireplaces on the ground story fenders of 4½ inches brickwork, when the same can be properly applied to support the slabs, and of such heights as the profile or nature of the ground may require, and put to all the fireplaces in the upper stories brick trimmers 18 inches longer than the clear width of the respective openings and 18 inches wide. — Fenders and trimmers.

Art 43. Leave temporary openings in such walls and situations as may be directed for getting in boilers, warming apparatus, or any other purposes, and make good the same when required. — Temporary openings.

Art. 44. Any brickwork that may be affected by the frost to be pointed in the spring succeeding the certificate of the completion of the buildings. — Point after work

Art. 45. All brickwork to be well bedded in mortar or cement, and the facings to be carried up in the rough, and pointed when directed in the most careful manner with a neat flat joint, and jointed. — Point.

Art. 46. Clean off all soffits of cement and mortar arches which are intended to be coloured or limewhited immediately the centering is struck, and while the mortar is soft. — Clean off.

Art. 47. Bed in mortar or cement all plates, doorcases, door and window frames, wood-bricks, bond timber, lintels, templates, girders, and all timbers, stone, or iron, or whatever else may so require. Set, bed, and back out all the stonework in door and window openings, the dressings to windows, archivolts, key-stones, architraves, entablatures, cornices, quoins, chimney-caps, strings, blockings, columns, pilasters, &c. — Bed in mortar or cement.

Art. 48. Bed all hearths solid in mortar at front of all chimney openings, and back hearths to all the fire-places throughout the building. All hearths to be level with the floor on the top side. — Setting hearths.

Art. 49. Cut and rub all requisite splays, skewbacks, ranges, and chamfers; form all groin work; securely pin in, when necessary, with stone, tiles, slate or iron wedges, ties or cramps; set the same in cement, and cut out for all chasings and toothings for inletting of pipes, ventilators, air-gratings, louvres, &c., and perform all labour of every kind necessary to carry out the intention of the work in every respect, and corbel out for all projections in brickwork or stonework, for chimney breasts, chimney shafts, support of stairs, steps, or landings, bearings for flues, arches, or for any other purpose whatever required. — Cut and rub.

Art. 50. Bond courses, in cement, to be built when directed by the Superintending Officer, as the work proceeds, and hoop-iron to be built in the same, of such substance and in such manner as may be directed, for which purpose include 20 rods extra of brickwork in cement and 5 tons of hoop iron bond, to be paid for if used. The piers at angles of ward staircases are to be built up in cement from the foundations. — Bond courses.

Art. 51. The rusticated brickwork to porches, piers, and retaining walls where shown, is to be executed as before described, with neat and sharp arrises, and constructed with a battered face wherever shown on the drawings. — Rusticated brick work.

Art. 52. To fix all iron and other mantel pieces to chimney openings, the iron cramps for the same to be securely built in the brickwork, and when built in afterwards to be in cement. — Fixing mantel-pieces.

Art. 53. The Contractor will be required to station a watchman on the premises at his own cost, till the completion of the work. — Watchman.

Art. 54. Repair, amend, and rectify all settlements, cracks and defects which may at any time occur, by reason of accident or other cause (such as can reasonably occur to a Contractor) during the progress of the works, and during twelve calendar months after the certified completion of the same. — Reparation.

Art. 55. The Contractor is to omit no materials or workmanship whatever which is either necessarily connected with or implied in the proper completion of the works, as shown in the drawings or described in the specification. — Materials and workmanship.

Art. 56. Provide and build in cement near the ceiling, between each window, in the day-room, in all the main wards, and over each window in the small wards, also to each ward-lavatory and water closet, a Sherringham's ventilator, bronzed. Those in the wards to be 9 inches by 3 inches, and those in ward waterclosets and lavatories to be 13½ inches by 6 inches. — Sherringham's ventilators.

Art. 57. Set all the stoves, ranges, coppers, &c., with stock bricks laid in mortar, and all necessary Welsh lumps, fire bricks and fire clay, and construct all requisite air flues in connection with the ventilating stoves of such dimensions as may be directed. — Setting stoves, ranges, boilers, &c.

Art. 58. The joints of all the work and such of the rooms, stores, cellars, or underground story, not intended or described to have the walls rendered, are to have a neat flat-joint, and to be twice coloured or lime-whited as may be directed. All inequalities of surface in unplastered walls to be rubbed smooth. — Neat flat joint and colour or lime white.

Smoke flues.

Art. 59. All the smoke flues, except boiler and ward flues, to have 9-inch tubular unglazed earthenware socket-pipes, and proper bend pieces, elbows, &c., and jointed in cement.

Ward flues.

Art. 60. The vertical smoke flues from the ward stores to be constructed as shown on Drawing No. 80 with 9-inch square flues in the thickness of the walls, to be made in the manner shown on detail Drawing.

These pipes are to be made in 12-inch lengths, grooved and jointed with hoop-iron in cement, with all necessary elbows, bends, &c.

All smoke flues to be set and jointed in cement, and built in solid with brickwork in mortar.

Boiler flue.

Art. 61. The flue or shaft from the boiler-house to be constructed underground, as shown, with 1½ brick sides, 2 brick flat bottom, and 1 brick arch over, laid on concrete, the bends and connections being carefully made.

This flue is to be 3 feet 6 inches by 3 feet 6 inches in the clear, and to be carried up against the chapel wall, as shown, with a superficial area of 8 feet 9 inches, to be rendered inside with cement, and finished the same as other flues.

Ventilating flues.

Art. 62. The ventilating flue from the kitchen is to be carried up against the boiler flue, as shown on the Drawing, and rendered with cement. The half-brick division wall is to be built in cement, with hoop-iron bond inserted every 2 feet.

A channel in connection with this flue is to be constructed in the wall of kitchen 6 inches below the ceiling as shown.

The flues or channels in the walls for ventilation are to be constructed in the most careful manner, of such dimensions as are figured on the Drawings, or as may be directed during the progress of the work, and are to be rendered in all cases with cement.

Steam escape flues.

Art. 63. Six-inch terra-cotta flue pipes to be built in the wall from the boilers or coppers at the end of the wash-house, to be carried vertically through the wall, as shown on the Sections.

Chimney stacks.

Art. 64. Raise all the chimney shafts and boiler shaft, as shown by the Drawings, and properly turn where necessary all flues, carefully gather the same over when required, or build in such a manner as to be most favourable for good draught, and carefully work to the form shown, or as may be directed; all the cappings and splays to be of stone.

Boiler chimney to washhouse.

Art. 65. Construct the chimney where shown on the Plan, and of the dimensions, form, heights, and thickness indicated on the Drawings, and to have in the entire height 14 tiers of brickwork in cement, each tier being 3 courses in height.

Chamber for pipes.

Art. 66. Form under ground floor corridor, in the position shown on Drawing, and of the form and dimensions shown and figured thereon, two ducts to contain the pipes for warming, and other services connected with the building; to have 1-brick sides with two courses of footings, ½-brick arch in cement, leaving apertures for areas where directed, and pave the bottom with brick flat bedded solid in mortar, and properly grouted with liquid mortar. Twice limewhite the internal sides and arch, and strike the joints of brickwork fair for same.

Terrace steps.

Art. 67. Construct under each flight of steps from terrace four 9-inch walls in mortar, with two courses of footings to each, cut to form a solid bed for steps.

Cesspit for boiler-house.

Art. 68. Form a cesspit, as shown, for the reception of waste water from boiler-house, 10 feet by 5 feet steined in ½-brick, and domed over in ½-brick in cement, a core 2 feet in diameter to be formed up to general level, and covered with a 3-inch York stone, tooled both sides and edges, 2 feet 6 inches square.

The bottom of this cesspit to be 45 feet under datum level, and to be connected with a 9-inch drain carried to S.W. angle of site.

Rain-water tank.

Art. 69. Construct the underground rain-water tank where directed, and of the figured dimensions, to be built in brickwork in cement, and rendered up to the level of the springing of the arches with ½ Roman cement and sand, ¾-inch thick.

Turn arches 1½-bricks thick on strong centering, and puddle with clay well rammed to the back of the wall as shown.

Pavement lights.

Art. 70. Construct openings in the arches of wine and beer cellars, and provide York stone curbs rebated to receive pavement lights, 21 inches diameter, as shown.

Art. 71. Lay upon all walls of buildings, external and internal, except area and sleeper walls, 6 inches above the finished ground in all cases, Jennings' damp proof course, which will be provided by the War Department.

Asphalte.

The asphalte to be used is to be supplied and laid down by the Seyssel Asphalte Company, and is to be of the quality known as "Pyrimont Seyssel."

Entrance gateway.

Art. 72. Pave the entrance gateway with ¾-inch asphalte, laid in two thicknesses, dressed close up to granite sills and racers, and laid on a layer of fine concrete.

Flat over corridor.

Art. 73. The flats over main corridor are to be laid with ¾-inch asphalte, laid in two thicknesses on fine concrete, with a shallow channel on each side, as shown, 6 inches wide, dressed close up to stone curb, and finished against the walls with a flashing of ½-inch asphalte, 6 inches high, and turned into wall.

Covered ways.

Art. 74. The covered ways are to be laid with ¾-inch asphalte, in two thicknesses, on fine concrete, turned up against the curb on each side 2 inches.

Arches.

Art. 75. The backs of arches of wine and beer cellars, subway, and boiler house are to be laid with ½-inch asphalte, the asphalte being carried in all cases through the entire thickness of walls.

Fire-proof Floors.

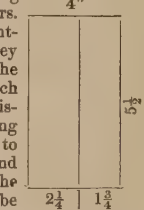
Fire-proof.

Art. 76. The arrangement of the wrought-iron girders and joists for the construction of the fire-proof floors is shown on the Detail Plans and Sections, numbered 98 to 104 inclusive. The girders and joists are not included in the general tender for the building, but will be supplied and delivered at the works by the patentee, Mr. Henry Barrett, 12, York Buildings, Adelphi; and the Contractor will have to hoist, arrange, and fix them, providing also the necessary angle-plates, labour, and rivets in drilling and connecting the joists and girders in the library and chapel, and in forming the floors, flats, and ceilings, as hereinafter described.

Each of the main wrought-iron girders in the library and chapel, and the four pairs of rolled girders for carrying walls, are to bed on stone templates. In fixing the joists a firm and level bed is to be provided, so as to give them a true and uniform bearing on the walls, and for this purpose one double tier of hoop iron in three courses of brickwork in cement is to be laid under the ends of all joists throughout the building, except where continuous stone templates are provided. The long lengths of joists which are carried over internal walls will be brought to an intermediate bearing thereon by the weight of the concrete, and in order that the weight may bring them as nearly as possible to a true level, all the girders and joists will be slightly cambered.

The manner of connecting the joists to the girders in the chapel and library, viz., by short lengths of angle-iron, ⅜-inch thick, securely rivetted, is shown on Drawing No. 104. When the strips bear against the walls, rough fillets are to be plugged to the brickwork to receive them. In all the main wards where 8½-inch joists are used, the bearing is to be reduced by brick corbelling from 26 feet to 24 feet, as shown on the sections, and the ends of joists bedded on a chain of vat hoop iron 2½ inches wide.

In forming the floors and flats, stout laths or strips, full 1 inch square, are first to be laid across from joist to joist on the lower flange; these may be rough sawn, but must be free from knots, placed ½ inch apart; and every twentieth lath, giving about a 3 feet interval, shall be of increased scantling not less than 2½ inches by 1½ inches laid flat, for the purpose of securing the ceiling joists below; the laths when laid shall be first secured at their ends by a portion of fine concrete or rough mortar to keep them steady, after which the centre part shall be filled in. The concrete thus placed shall be brought to within 4 inches of its final thickness, the surface being left rough, though of an uniform average level. On this first layer shall be duly arranged and properly levelled the sleepers for securing the 2-inch joists of deal to carry the oak floors. These sleepers are to be cut out of a solid scantling 5½″ × 4″, sawn in such a manner that they shall measure 1¾″ at top and 2¼″ at base, the top and base forming the whole dimension. Each sleeper, after being set level at the correct distance, &c., is to be firmly secured by being bedded in an additional layer of concrete to within ¼-inch of its upper edge; this layer, and the former one beneath, forming together the entire thickness specified. If it should be thought any advantage to put the whole layer of concrete in one thickness, channels must be formed with a pick, of the required depth to receive the sleepers, which, after being placed level as before, shall be made good, and secured with concrete in their true position by well tempered mortar or fine concrete.



The whole surface of concrete is finally to be brought to joist level, with rendering of Portland cement.

The concrete is to be made of equal quantities of fine ballast or gravel and broken brick or tile, in pieces the size of a walnut, the whole well mixed with ground lias or other equally good stone lime, in the proportion of 7 of gravel to 1 of lime, to be laid in moist, and well trodden in. The thickness of the concrete to be as follows:—

Ground Floor.—8 inches generally, and 10 inches in ward staircases, bath room, and those wards where 8 inch and 8½-inch joists are used.

First Floor.—10 inches in all the wards; 8 inches elsewhere.

In the flats over provision stores and corridor the concrete will be laid to a slope of about 1½ inches in 10 feet, to carry off the rain water, and will average about 9 inches in thickness. In laying the concrete both of floors and flats, a channel 2 or 3 inches wide is to be left round the walls, to allow for expansion during its setting. This channel is to be afterwards filled up. The basement ceilings of pavilions Nos. 1, 2, and 3, and the rear half of No. 4, are to be formed as follows:—After the concrete is dry, and before applying the pricking-up coat of the ceilings, the under side of the iron joists should be scraped with a knife to remove any loose scales of iron, and painted with a good coat in oil. The plastering forming the ceilings is then to be applied. The first or pricking-up coat of lime and hair to be

of sufficient thickness to cover the flanges of the iron joists full ¼-inch, and to be well pressed between the strips, so as to unite with the concrete above. The finishing coats of the ceilings are to be put on when the pricking-up coat is perfectly dry, and in the manner described in the Plasterer's work.

The remainder of the basement ceilings and the whole of the ground floor ceilings are to have lath and plaster counter-ceilings, which are to be attached to stout fillets or battens 1½ inches square, and 12 inches apart, firmly secured to the strips or laths which carry the concrete. These ceilings should not be applied until the concrete is perfectly dry, and the soffits of the iron joists should be previously scraped and painted.

The detail sections show the construction of the floors and flats ½th full size, with the application of a boarded surface to the floors generally, one of tiles to the floor of corridor, and one of asphalte to the flats. The boarded surface is to be secured to light fir joists, 2″ × 2″, laid 12 inches apart, upon the level surface of the concrete as shown, with occasional struts 3 or 4 feet apart to stiffen them. The asphalte surface of the flats is to be laid to the slope of the concrete.

All ironwork contained in the floors is to be painted one coat in lithic paint, and one coat in common colour.

Mason.

Art. 77. All the stone is to be of the best quality, free from salt, vents, sand holes, and other defects, such as shells, cracks, &c. The strata to be the best, and the masonry generally to be subject to inspection and rejection in regard to material and workmanship if in any case it be found defective. The whole of the stonework is to be left in all respects perfect at the delivering up of the building, and the Contractor must therefore take all precautions which he may deem necessary for protection from chipping or breakages, or other injuries by weather or by accident. Substantial scaffolding is to be provided and no material or workmanship is to be omitted which is necessarily connected with or implied in the proper completion of the work, as shown or intended on the Drawings or in the Specification. All stones are to be worked on the ground and set with lewises and proper tackling; the bonds, beds, and scantling of every stone are to be the full dimensions required by the Drawings, and every attention is to be paid to bonding the work in the most perfect manner.

The backs of the ashlar and dressings, which bond with the brickwork, are to be roughly drafted square with the beds. The beds and joints are to be what is termed half plain work, to be sunk wherever necessary to make good work, and no joint to exceed $\frac{1}{10}$th of an inch in thickness.

The plain work to be true in all cases and out of winding. All the arrises and angles to be carefully kept, and the lines of the mouldings, the curves and the mitres (which latter are in all cases to be worked out of the solid) are to be chiselled to their true form.

The Bath stone masonry throughout is to be finished with a fine dragged face.

Every stone is to hold its full length and height square to the back.

The horizontal beds of the dressings to jambs of doors and windows, pilasters, &c., are to be secured with one or more slate dowels, 1½ inches square and 2 inches long, carefully fixed with cement.

The beds of all architraves to windows and openings, and the bearings on sills and heads, to be secured by one similar dowel.

Copings, blockings, and cappings of balustrades are to be secured by strong copper cramps, 20 inches long, one at each joint, let into the underside and run with lead, also lead plugs at each joint, and no stone to be less than 2 feet 6 inches in length.

The balusters to have a slate plug, 1½ inches square and 3 inches long, let in at each end.

All arch joints are to have double lead plugs, and each arch bed to have a slate dowel, as before described.

All projecting cornices, cappings, and strings to have water joints run with lead.

Cut all grooves for lead flashings and asphalte fillets, and all mortices, chases, grooves, rail-holes, and sinkings that may be required.

Hooks and pivots for gate and door hinges, catches for latches, and for holding gates, doors, and windows open, to be let in where necessary in solid stone and run with lead.

Granite.

Art. 78. The plinth to entrance gateway, front and rear, is to be of Cornish or Devonshire granite, the base of each pier being in one stone, half plain beds, exposed faces wrought fair and weathered, as shown.

Art. 79. To provide and fix at entrance gateway, 4 fend stones, in the position shown on Drawing No. 47, to be 18 inches diameter, 34 inches above the ground, and 26 inches under the ground line.

Provide and fix 4 fend stones against the curb adjoining the main road, 12 inches above ground, 10 inches in diameter, rounded on top, and 15 inches in the ground.

Art. 80. The sills at gateway to be each in 3 stones, bedded in brickwork, 2 feet 4½ inches wide by 9 inches thick, wrought fair on upper side and morticed to receive cast-iron gate standards.

Art. 81. To put to the cart entrance a sill, 18 inches wide and 8 inches thick, to be in 3 stones, the exact size of the opening. Cut out mortice holes to receive the plugs at the bottom of the iron socket bases. Sill to cart entrance.

Art. 82. The steps to footways to be worked square, each step to be in one piece, 15 inches by 6 inches, worked fair on tread and riser, and to have 3 inches lap one over another. Steps to footways.

The upper step, in each case, to be in breadth the full thickness of the wall.

Art. 83. Provide and bed in concrete, in central gateway, curved racers, 12″ × 6″, tooled fair on upper side, the joints plugged with copper dowels, and a sinking, 2″ × ½″, for wrought iron flat racer, which is to be let in flush and run with lead. Racers.

Art 84. The curb to footway to be the ordinary road curb, 12″ × 6″, in 3 feet average lengths. Curb to footway.

Bath Stone.

Art. 85. The Bath stone to be used throughout the building is to be of the best quality from the Box Quarries; certificates of the same are to be delivered with each cargo by the owners of those quarries, and no stone is to be left of a quality inferior to two samples deposited at the War Department prior to the commencement of the works. Quality of stone.

Art. 86. The ashlarwork to entrance gateway to be worked in accordance with Drawing No. 23, no stone to bed less than 6 inches on the bed, and those forming the quoins are to be cut from solid stone, so as to show in their returns a width of 2 feet 6 inches at least. Through bondstones to be introduced every fifth stone. The whole of the ashlaring to be secured by slate dowels, to be worked fair and rubbed on face and exposed edges, and to have the arrises of the rusticated work sharp and clean cut. Those parts shown as vermiculated are to be executed as shown on Drawing No. 38, with a chiselled draft, the other portions of the face being raised half an inch from the surface, and rough pointed with a chisel. Ashlaring.

Art. 87. The several strings, plinths, &c., throughout to be worked according to the profiles, the face and exposed edges wrought fair and rubbed. No stone to be less in length than 3 feet, and all angle stones to be worked out of the solid. Strings, plinths, &c.

Art. 88. The quoins at angles of buildings, wherever shown, are to be of the figured heights and widths, each quoin to be in two stones, with occasional solid stones for bond. Those shown with picked faces are to be worked in accordance with Art. 86. Quoins.

Art. 89. The architraves, archivolts, imposts, pilasters, and key-stones, wherever indicated, are to be worked as shown by the red lines on the detailed Drawings, the whole of the stones to bear the full thickness throughout, to bed not less than 6 inches on the wall; all exposed parts to be neatly jointed, and the top and bottom stones of jambs to be rebated for the window frames. Architraves, &c.

Art. 90. The caps and bases of columns at ends of pavilions to be each in one piece, and the caps to be in accordance with the Drawing No. 44, worked fair and secured with slate dowels, as before described. Caps and bases.

Art. 91. The shafts to be turned each in one piece, worked fair and smooth all round and dowelled as before described. Shafts.

Art. 92. The sills to the windows of the upper story at projecting ends of pavilions are to be worked in lengths, each sill to be in not more than three pieces, the joints plugged and dowelled, and sunk, moulded, weathered, and throated as shown. Sills.

Art. 93. The cornice round front building and to the ends of all pavilions, as shown, are to be of Bath stone moulded as shown on the several Drawings, with trusses, blockings, &c. &c.; every stone to be properly plugged, and the external angles cramped with copper cramps, and fixed with two or more holding down bolts, to be finely dragged on all exposed faces and well bedded on the wall. No stone to be less in length than 2 feet 6 inches, and the Contractor is at liberty to work such cornices as he may think proper in one stone in depth. Cornices.

Art. 94. The blocking course over the projections in rear of centre building and elsewhere, as shown, to be in stones of not less than 3 feet in length, worked fair over all external faces. Each stone to have on the horizontal joint one slate dowel, and the vertical joints one plug of the same description and size as before set forth, and to be set in cement. Blockings.

Art. 95. The piers, bases, cornice, blocking, and sunk panels in attic over gateway are to be of Bath stone, sunk, weathered, moulded, bedded, and throated, as shown on Drawing No. 48, and worked and jointed as described for stonework of a similar description. Attic.

Art. 96. The cornice over corridor is to be worked in lengths, as shown on Drawing No. 43, to suit the dimensions of the window openings, to be channelled on surface for iron chain bar, and holed over each pier for inch square bolts built into brickwork. Cornice over corridor.

Art. 97. The chimney caps throughout to be worked out of the solid, wrought fair on all exposed faces, to be well bedded on the brickwork; the flues to be carefully cored, and to be in one stone in depth. Chimney caps.

Balusters. Art. 98. The balusters throughout are to be of Bath stone all square in section as per Details, and secured with one slate dowel top and bottom.

Pier caps and bases, and capping. Art. 99. The caps of piers terminating the fence wall and terrace wall, the balustrading and capping, to be worked fair and of the profiles shown, the joints to be secured as before described, and morticed, and holed to receive lamp-standards and gas-pipes. The pier caps to be in one stone, and the balustrade-capping to be in not less than 3 feet lengths.

Window sills. Art. 100. The sills to all windows are to be of Bath stone, sunk, weathered, and throated, dragged on all exposed parts, and tongued for sills of sash frames. Each sill to be in one stone of the figured dimensions, bedded in mortar, parallel with the face of the wall, projecting 2 inches, and the ears built into the wall at each side 2½ inches. Where the sills are shown continuous with the strings they are to be worked according to the Drawings, moulded to the profiles shown, and sunk, weathered, throated, and tongued as before. No sill to be less in thickness than 7 inches, and to be weathered on an average to an angle of 30 degrees.

Carving. Art. 101. The keystone head over entrance gateway is to be boldly executed, in accordance with a model or cast to be furnished by the Contractor.

The carving for the reception of clock face over entrance porch to Chaplain's quarters to be executed as shown, to be boldly cut in good relief, to the entire satisfaction of the Superintending Officer, in accordance with a sketch hereafter to be furnished.

Portland Stone.

External steps, landings &c. Art. 102. The stone used is to be from the Waycroft or Maggot Quarries.

The whole of the external steps and landings, and floors of porches, are to be of Portland stone, of the best quality, and certified as such in the manner described for Bath stone. All steps to bear the full lengths, widths, and thicknesses shown on the drawings, and where built into brickwork to be pinned in with cement. Each step to be 3 inches wider than the clear width of the tread, and to be wrought fair and rubbed on all exposed faces. The steps to terrace to be 18″ by 5″, in 6 feet lengths, and the joints secured with lead plugs.

Four inch rubbed landings, laid in mortar to current, on a concrete foundation, to the six basement entrances at ends of pavilions. These landings are to be each in two stones, 6 feet 4½ inches by 5 feet.

Curbs and plinths to covered way. Art. 103. Provide and set in mortar stone bases 12″ × 10″ × 10″, under each column, worked according to detail shown on Drawing No. 73, sunk one inch for base of column, and tooled at front and top.

The stone curb between the bases is to be 7″ × 5″, set in cement, on a bed of concrete. The heading joints are to be secured with one slate plug in cement, 2 inches long and 1½ inches square. These stones (except the closers) are not to be less than 2 feet 6 inches in length, and tooled at front and top, chamfered on the outer edge, and rebated for asphalte.

Ward staircases. Art. 104. For these staircases see Article 213, under Joiners' work.

Central staircase. Art. 105. The staircase to the centre Pavilion to have feather-edged steps, backjointed, worked fair all round, with moulded nosings, and of the scantlings shown on Drawing No. 52. The side flights to be securely pinned in at one end 6 inches with cement, morticed for stubs of girders as shown, and for iron balusters. The centre flight to be similarly morticed at both ends. The bottom step to be solid, pinned in at both ends into the brickwork with cement, and the top steps to be in breadth the full thickness of the wall.

Stairs to Officers' Quarters, centre building. Art. 106. The stairs to Officers' quarters, in centre building, from ground to first floor, to be of the lengths and scantlings shown in Drawing No. 13, to have 2 inch back joints, and worked fair all over. Each step to be pinned into the wall 6 inches with cement, and the bottom steps to be solid.

Landings, internal. Art. 107. The landings to the central staircase, and to the ground floor, whenever bedded solid on concrete, are to be 4 inches thick, the remainder 6 inches. To be in all cases worked fair, and rubbed on all exposed sides and edges, and moulded where shown to correspond with the nosings of steps. The 6 inch landings to be joggle-jointed and morticed where necessary for balusters. 2 inch rubbed Portland, set in mortar, 14 inches wide and 5 feet long, to be laid in each arched opening off the corridor on the ground floor, as a curb for tile-paving.

Corbels. Art. 108. Provide and bed in concrete, Portland stone corbels under binders of chapel gallery, and under feet of principals of covered entrance to Museum. All to be chamfered, sunk, or moulded, as shown, having a bearing of 9 inches on the brickwork, and morticed for plugs, which are to be let in and run with lead. Also provide and build in corbels of approved design, and corresponding as near as possible with the caps of iron columns for securing the feet of iron brackets of covered way where abutting against brickwork. To be worked fair on all sides, and caulked for brackets.

Bases for stoves. Art. 109. Provide and fix stone bases 6 inches thick in Officers' Library and Museum, likewise in bed-making room, where Nettleton's stoves are provided, of such dimensions as may be required,

Similar bases 9 inches thick to be provided for all staircase stoves, as shown in Drawing No. 76.

Hook Art. 110. Provide and build in piers of cart entrance, hook stones, 2′ 6″ × 1′ 16 × 1′ 0″, tooled fair on exposed faces, and morticed for fangs of hinges. Also build in stones properly squared, 9″ × 9″ × 6″, for securing all ends of iron bar railing or fence.

Yorkshire Stone.

All the Yorkshire stone required for the building is to be of the best quality, from the Parkspring Quarries, or other equally approved.

Templ Art. 111. The templates under all girders, rolled joists, shoes of iron roofs, feet of principal rafters, wherever shown, and for all lintels, where shown or considered necessary, to be of the figured lengths and thicknesses, morticed for the caulkings and bedded in cement. Provide and build into the wall in cement in continuous lengths, to the two sides of all the principal ground floor wards, as shown on Drawing No. 55, 3-inch York templates. Similar templates, built in edgeways, into all window arches, as shown on the same Drawing, to carry the continuous template across the window openings.

Lay upon all girders that carry a wall above self-faced stone of the figured dimensions, built in cement, the outer edges tooled fair where exposed to view. In internal walls, the template to be in width the full thickness of the superincumbent brickwork, and in external walls to be within 4½ inches of the face of the work. Provide and set in mortar, under feet of all iron carriages of ward staircases, 5-inch tooled York templates, 3′ 0″ × 1′ 0″, bedded solid on brickwork, and morticed for caulkings, in the manner shown on detail of principal staircase. Also 3-inch rough York stone covers to all ventilating stoves, with holes cut for air and smoke pipes, as may be directed by the Superintending Officer.

Hearth Art. 112. The hearths to all kitchens to be 4-inch rubbed York, in one stone, bedded solid in mortar.

The front and inner hearths to all other fire-places are to be of 2½-inch rubbed York, to be respectively in one stone each, and to extend 18 inches longer than the clear width of the several openings, and 18 inches wide. The joints where the front and inner hearths meet, and the edges, to be properly squared and straight throughout, and laid level on the top sides with the floors.

Paving Art. 113. The paving throughout (except when specified to be of Portland or Granite) is to be of York, shown on plans by a blue tint, and when the under side is exposed, to be rubbed both sides. All corridors and passages in basement, floors of boiler-room, kitchens and offices, to be paved with 2½-inch rubbed York, laid on concrete as shown. The kitchen floor being likewise laid on damp proof course as shown. Open areas, cellars, stores, and bottoms of lifts to be 2½-inch tooled York. The joints (in all cases) to be rubbed the whole thickness of the stone, and to be back jointed to the flooring. In all cases where the openings have doors hung to swing, the paving is to be six inches thick (each opening filled in with one stone) and the patent hinges are to be let in and run with lead. All internal openings are to be laid $\frac{3}{8}$ths of an inch above the level of the boarded floors, and no stone to contain less than 6 feet superficial, excepting closers.

Paving house. Art. 114. Provide and bed solid in mortar on well rammed dry rubbish, properly levelled, 3-inch tooled Yorkshire paving to the wash-house, boiler-room, and engine-room, tinted blue on plan, to be jointed in cement, and laid with all proper currents to the channels which are to be constructed as indicated on the plan.

Curbs. Art. 115. Provide and set a York curb 12″ × 6″ tooled fair, round the beer cellar shoot, as shown, to be bedded in the brickwork, the joints plugged, and rebated for cellar flap. Provide and set in mortar York stone curb, of the figured dimensions, tooled fair on upper side to the front of drying closet, and rebated for iron gratings. The joints to be rubbed and dowelled.

Coal pla Art. 116. Provide and set to each of the coal cellars a slab 3 feet square and 6 inches thick, tooled fair, and rebated for coal plate.

Staircas Art. 117. The central staircase, communicating with the basement in chaplains', nurses', and orderlies' quarters, also lower flight in officers' quarters (front building) and stairs to boiler-room, are to have spandril steps, rubbed fair and back jointed as for other spandril steps already described, built into the wall with cement not less than 6 inches. Each step to be 2 inches wider than the tread and to be morticed for iron balusters, which are to be let in and run with lead. All steps in basement story, wherever shown, are to be solid steps of tooled York, bedded in concrete and rubbed where in connection with rubbed landings.

Landing Art. 118. The landings, except when specified of Portland, to be 6-inch York, joggle jointed and run with lead, and securely pinned into the wall, with cement, not less than 6 inches. 6-inch York to ground and first floor corridor of front building, joggle jointed and run with lead. All the exposed surfaces,

soffits, and edges to be rubbed fair and the edges of landings forming well-holes to be moulded where requisite to correspond with the nosings of steps.

Art. 119. Fix in the principal scullery a 7-inch sink, 6 feet long and 2 feet 6 inches wide, supported upon 3 York bearers, tooled upon each face, and both sink and bearers pinned into the wall with cement.

Cut out for sink trap and skirt round the back and end with ¾-inch Bangor slate, 18 inches high, rubbed upon the face and edge and plugged to wall.

Fix in each of the officers' kitchens a 6-inch slate sink, 3 feet by 2 feet, with proper slate bearers and holes for sink traps, and similar sinks in each of the non-commissioned officer's quarters throughout the building, of suitable dimensions.

Provide and fix in pharmacy, dissecting room, and dispensary in accordance with the Drawings, slate sinks with rebated holes for sink traps and fixed on proper bearers.

Provide and fix in ward sculleries Jennings' white glazed earthenware sinks; fixed on wrought iron bearers, as shown in detail.

Art. 120. Provide and fix 3-inch York lintels and curbs to all openings communicating with the filter beds and water-tank, as shown on Drawing No. 88, also 6-inch York stone tooled flagging over filter beds and space for pump, forming proper opening therein for same, and having two large iron flush rings fixed in the cover stone of the small filter chamber.

Art. 121. Provide 2-inch rubbed York chimney pieces to each of the officers' kitchens in the front building, fitted to the openings, with plain jambs and mantel projecting 15 inches.

Purbeck Stone.

Art. 122. Provide and set in mortar, on a bed of concrete 9 inches thick, a Purbeck stone channelled course, as shown in light blue on the plan of drains. The stone to be 15 inches wide by 4 inches thick, properly sunk and straight on edge, laid with a fall to cess-pits. Also provide and set in mortar, on a bed of concrete, 9 inches thick, on the outside of the channel stone when next the curbs or walls of the buildings, and on each side of the channel stone when the courses are isolated, stone curbs, 9 inches deep and 4 inches thick, tooled on face and set straight; all joints to be close, and no stone to be less that 3 feet in length throughout, except for closers; the channel stones to be perforated where necessary for iron and stoneware gratings. Where rain-water pipes occur the channel course to be curved round the same.

Also provide No. 30 tooled channel stones where shown, for drainage of garden, 18 inches long by 18 inches wide, with curbs all round as before. Dish out for and provide, and let in the gratings, when required.

Art. 123. Provide and lay where directed Purbeck index stones, 15 inches square and 4 inches thick, and laid on a bed of concrete, 18 inches square and 6 inches thick. Those over the junctions of the principal drains to be octagonal or circular, 18 inches diameter, and grooved with lines, indicating the directions of the drains over which they are placed, and the depth of the latter below the surface.

Slater.

Art. 124. Slate all the roofs (except where otherwise described) with the best strong Countess slate, nailed with copper nails, laid so that every third slate shall overlap the first at least 3 inches, to be cut close to all hips, valleys, chimney stacks, ventilators, &c., the eaves laid double, and each slate secured by two strong copper nails.

Art. 125. The front and return sides of front building are to have sawn slate slabs, with 3-inch ridge rolls (Williams' patent) securely fixed, and made water tight, in accordance with Drawing No. 77.

Art. 126. Louvres, wherever shown, of slate are to be ½-inch rubbed slate, pinned into stone or brickwork with cement. The open ridges, wherever shown, are to be of ½-inch slate, rubbed both sides, with 2½-inch ridge roll, fixed with countersunk screws, as shown.

Art. 127. Wine bins to be two tiers in height, as shown on Drawing No. 77; bottoms to be inch slate, sawn fair both sides, with square edges, to have 4½-inch bearings on end and back walls, and 2½-inches at meeting joints on brick pier divisions. The bottoms to be inserted as the piers are built up.

Art. 128. The whole of the baths, with the exception of those for the orderlies' and nurses' departments, are to be of Rufford and Finch's best white glazed Stourbridge ware, 5 feet 3 inches long at top, 2 feet 4 inches wide, and 1 foot 11 inches deep.

These baths will be laid on ¾-inch rough deal, edges shot with a lining of 7 lb. lead, turned up 6 inches all round, and bedded in concrete as shown in detail.

All the baths are to have ½-inch enamelled slate fronts, securely fixed.

Art. 129. The slate partitions shown on the drawings are to be 1 inch thick, rubbed on both sides, fixed in cast-iron galvanized cappings according to Drawing No. 78. All exposed slate work in baths, urinals, sink skirtings, &c., where not enamelled, to be oiled and well rubbed.

All vertical joints to have copper tongues and grooves.

The divisions in bath-house to be let ½ an inch into wood floors, and run with cement.

Partitions in bath-house to be rebated for slate doors, and a small fillet of India-rubber screwed into the rebate. The doors are to be hung with brass hinges as shown in detail, and are to have 4-inch brass bolts, large porcelain handle knobs, two porcelain hat pins with screwed ends and nuts, all secured with brass screws.

Art. 130. All the water-closet cisterns to be of sawn slate, with 1½-inch sides and 1½-inch bottoms, grooved as shown, and put together securely with galvanized-iron bolts, the bolt heads to be let in and properly covered as shown in Drawing No. 77. Cisterns.

Art. 131. Two of the provision stores are to be provided with two tiers of shelves of ¾-inch slate, rubbed on one side and with rounded edges, built 2 inches into the brickwork, and supported by light cast-iron brackets under all joints, which are to be copper-tongued and grooved. The lower tier is to be 2 feet 6 inches clear in width, and the upper 1 foot 6 inches. Shelves in provision stores.

Provide and secure to oak plugs with strong flat headed screws, a skirting of ½-inch rubbed slate, 6 inches high round each tier of shelving.

Art. 132. Provide and securely fix to brickwork at the Communion end of chapel two enamelled slate slabs, 1 inch thick, with the edges gilt, and of the profile shown on Drawing. Tablets to Communion.

The slabs to have the letters of the Commandments cut and gilt.

Art. 133. The washing slabs to all wards, as well as those to operating theatre, pharmacy, dissecting-room, and wherever shown on Plans of centre building, are to be 1 inch white-veined marble, in one piece, finely rubbed and polished on one side, with rounded edges and corners, and perforated and rebated as shown. These slabs are to have ½-inch skirtings of the same material, securely fixed to wall, and to have perforations in the same for cocks. Washing slabs.

Art. 134. Provide and fix in the corridor, as covers to pipe coils, slabs of 1½-inch slate, finely rubbed on upper side, with rounded edges, and of the dimensions figured on Detail No. 76; to be in one piece and grooved, as shown, for iron casing. Slabs for corridor stoves.

The number of these slabs required is 20.

Art. 135. Construct the vapour bath, in accordance with Detail No. 78, with two thicknesses of 1 inch slate, the interspace being filled in with sawdust. Rub all exposed surfaces. Vapour bath.

Art. 135A. Provide slate linings, fronts, and safes to Jennings' urinals, as per Detail Drawing.

Carpenter, Joiner, and Ironmonger.

Art. 136. The Contractor is to provide all materials and workmanship, and to frame, fix, and finish everything necessary for the complete execution of the work, with ironmongery of every description, and all appurtenances required, omitting no materials nor workmanship which are connected with or implied in the proper completion of the works, as shown or described in the Drawings or Specification. Materials and workmanship.

Art. 137. All timber is to be of the very best description from Memel, Riga, or Dantzic, sawn die square and free from sap, knots, or shakes, and, where possible, to be in one length. The oak to be Dantzic, well seasoned, and free from sap, shakes, and waney edges. Timber.

The deals and battens to be of the best description, Christiana or Memel, perfectly seasoned, free from sap, shakes, loose and large knots, and perfectly dry.

Art. 138. The ironmongery is to be of the best description and quality, to be fixed with screws, and all brass work with brass screws. Ironmongery.

Specimens of locks to be seen at the War Office, Pall Mall.

The Contractor is to provide and fix all requisite spikes, nails, screws, wall hooks, and all necessary and proper ironmongery and brass work. All hinges not otherwise described are to be of wrought iron.

The whole of the carpenter's work is to hold the scantlings specified when finished; the joiners' work to hold the several thicknesses hereinafter described, with the usual allowance for working, and to be fitted in the most workmanlike manner, with all appurtenances complete, as may be directed.

All timbers are to be laid truly level to prevent unnecessary thickness of plastering, or to prevent the scribing of the joiners' work. The principal timbers are to be laid upon the walls as much as possible, but in no case less than 9 inches; none of the timber in the joists, rafters, ceiling joists, or quarters, &c., to be more than 12 inches apart.

Art. 139. All bonds and plates are to cross each other at the angles and to extend beyond as much as possible. They are to be dovetailed and pinned together with oak pins. Bonds and plates.

The crossings and laps are to be scarfed and wedged, and pinned or spiked together.

Art. 140. Provide all centering to arches for vaults, groins, cambering, and discharging arches over all door and window openings, and wherever else requisite, including easing and removing when done with. All centering to become the property of the Contractor after use. No centering is to be removed until Centering.

the Clerk of Works or Superintending Officer shall direct the same to be done.

Wood moulds.

Art. 141. Provide all moulds for cast and wrought iron work, copper and stone work, to be used in the building. Such moulds to be prepared and submitted to the Superintending Officer or Clerk of Works for approval, previous to the casting or performing the work of each description.

Temporary supports.

Art. 142. Provide and fix all temporary inclosures which may be required for doors and windows, &c.; also, all hoards, shores, ties, struts, and boarding for protection of masonry, and shoots for rain water, &c., which may be required. Provide turning pieces to chimneys, struts, carriages, or other necessary supports; also, cut holes, dishings, and other works required by the plumber and other trades. Provide all rods, moulds, rules, laths, trammels, and other implements of every description for the use of the several workmen, and make good after them whenever required, and perfect any parts that may receive injury. Fix all smith's work as far as connected with the carpentry.

Oak bricks.

Art. 143. Provide oak bricks for the proper fixing of the joiners' work, &c.; none to be placed within 9 inches of any flue. The door openings to have twelve oak bricks, four of them being in the arch. Twelve similar oak brieks to all openings having wood finishings. Put fir templates where necessary under beams, binders, breastsummers, beams, purlins, and other timbers which do not rest upon plates on the wall, or when stone templates have not been previously specified.

Plates, joists, and lintels.

Art. 144. Provide and lay down to all wood floors, plates and joists of Memel, Riga, or Dantzic.

Plates throughout for joisting, $4\frac{1}{2}'' \times 3''$, except where otherwise figured on the drawings.

Joists throughout to be not more than 12 inches apart, and strutted every six feet.

Lintels of yellow fir over all door and window openings requiring them; 1 inch in thickness for every foot in width of opening. The lintels to be equal in width to the thickness of internal walls; and in external walls equal to the thickness of such walls, measuring from the back of the arch.

Girders, bearers, binders, &c.

Art. 145. The girders, binders, bearers, wherever shown, to be wrought and beaded, or stop chamfered, wherever exposed to view, or to be cased with inch deal beaded, and proper backings, where so indicated on the drawings.

The ends of girders, &c., to be secured to York templates, as specified under Mason's Work, with two wrought-iron pins, 1 inch diameter, 4 inches long, let into fir, and when let into stone to be run with lead.

Flooring, generally.

Art. 146. Flooring of rooms, passages, lobbies, and water-closets, day-room and itch ward, also all landings on first floor of pavilions throughout the building, except wards and lobbies at end of wards, to be $1\frac{1}{2}$-inch yellow deal batten floors, wrought, ploughed and tongued with hoop-iron, to be No. 15 B W gauge, and to be coated with oil before being fixed in the flooring. The flooring to be nailed to the joists wherever shown, or to deal fillets $2'' \times 2''$, as shown on the drawings of Fox and Barrett's flooring attached.

Curbs round hearths throughout to be of oak, $4\frac{1}{2}$ inches wide, wrought and mitred, and nailed with flooring brads, weighing 20 lbs. per 1,000.

Flooring to Wards.

Art. 147. The flooring of all wards and lobbies at end of wards, except day-room and itch ward, to be $1\frac{1}{2}$ inch, wrought, ploughed, and tongued wainscot floor, in batten widths nailed to deal fillets $2'' \times 2''$, as before described, with cut floor brads $3\frac{1}{2}$ inches long.

All flooring to have tongued headings, and to be laid straight joint. Provide in the day-room floor, and in all ward floors that carry horizontal smoke flues, one width of cross boarding, fixed with $2\frac{1}{2}$-inch countersunk screws, for each flue pipe. Such boarding to be of the same materials as the flooring, and to have an oak curb $4\frac{1}{2}$ inches wide on each side.

Curbs round stoves to be of oak $4\frac{1}{2}$ inches wide, wrought and mitred at angles, and with fair joints to all slabs.

The curbs to well holes of ward staircases are to be of wainscot, $7'' \times 3''$, wrought, moulded as steps, and rebated to receive the flooring, secured to deal flooring with $\frac{1}{2}$-inch wrought iron dowels not less than 9 inches in length.

Trimmer joists.

Art. 148. All trimmer-joists to be one inch thicker than the joists.

Ceiling joists.

Art. 149. The ceiling joists to be of the figured dimensions, to be spaced 12 inches in the clear, and secured to fillets at the ends.

Roofs.

Art 150. The several roofs to be framed in the manner and of the scantlings shown on the drawings; to be of the best Memel, Riga, or Dantzic; to have wrought-iron straps to king and queen posts, and for feet of all principal rafters to be $2'' \times \frac{3}{8}''$, fixed with screwed ends, as shown in drawing.

All hips to have angle ties and dragging pieces $6'' \times 4''$, and the wall plates to be connected through the flues by iron straps, $2\frac{1}{2}'' \times \frac{1}{2}''$.

In the ward, staircase, and other roofs, where binders are shown for attaching the ceiling joists, iron shoes are to be provided, dropping over the tiebeam and the ends of binders resting therein.

Cornices.

Art. 151. Provide and frame cornices of yellow deal, wrought one side, grooved and rebated, as shown on detail Drawing No. 51, to all buildings except front building and ends of pavilions.

Chapel roof.

Art. 152. The chapel roof is to have 6 wrought-iron framed principals, with intermediate and transverse girders framed therein, forming panelled ceiling, as shown on Drawing No. 33.

The main ribs are to be continued down to the top of pilasters, with bracketing, 3 inches thick, framed into face of wall and girder. The ribs are to have framed and mitred mouldings of the dimensions figured on the drawing, the panels being filled in with $\frac{3}{4}$-inch matched and chamfered boarding laid diagonally.

Roof b

Art. 153. Provide and fix to all roofs, except pharmacy and bath-house, $\frac{3}{4}$-inch yellow deal boarding, edges shot, with all necessary tilting fillets of deal. The boarding of all roofs to wards to be covered with McNeill's asphalted felt.

The roofs of pharmacy and bath-house to have $1\frac{1}{4}$-inch ploughed, tongued, and chamfered boarding, wrought on under side. The purlins and ridges to be wrought and stop-chamfered.

The boarding to roof over wash-house and ironing-room to be $1\frac{1}{2}$-inch yellow deal, matched and beaded on one side, with all necessary tilting fillets of deal. The spandril ends of louvred ventilators to be enclosed with similar 1-inch boarding, wrought both sides for lead covering. The boarding to remainder of wash-house roof to be $\frac{3}{4}$-inch rough deal, edges shot.

Boardi and ve

Art. 154. The flats upon which lead is to be laid are to be covered with $1\frac{1}{4}$-inch yellow deal, edges shot and thickenessed with 2-inch rebated drips when necessary. The flats to have a current of not less than $1\frac{1}{2}$ inches in every 10 feet, formed by joists of diminishing depth, and no furrings to be introduced in any part.

Put 2-inch rounded rolls to all flats, not exceeding 2 feet 9 inches apart.

Rolls

Art. 155. Rolls to ridges and hips throughout, except where slate is adopted, to be $2\frac{1}{2}$ inches diameter, secured by proper irons.

Gutters

Art. 156. The gutters and valley gutters are to be of $1\frac{1}{4}$-inch deal, well secured to proper bearers, the bottoms laid to a current of 2 inches in every 10 feet, with 2-inch drips. The vertical sides of gutters are, where necessary, to be formed with inch deal on strong backings. $1\frac{1}{2}$-inch dove-tailed cesspools 18 inches long, the full width of the gutter, and 6 inches deep, with holes cut and rebated for socket-pipes, are to be fixed to gutters where shown.

Cradlin coving

Art. 157. Fix sufficient ribs, with joists, cradling, bracketing, &c., wherever required, for plaster soffits, fascias, covings, and cornices over girders, or wherever else required. The cradling is to be fixed to wood flitches, which are to be bolted together through the girders.

Quarte tions.

Art. 158. The partitions between orderlies' rooms and passage, also partitions to non-commissioned officers' quarters off central staiacase, and to dissecting-room, to have heads and sills $5'' \times 4''$, posts $5'' \times 4''$, braces $5'' \times 3\frac{1}{2}''$, quarters $5'' \times 2\frac{1}{2}''$.

Framed trussed tions.

Art. 159. The framed and trussed partitions in front building to be as shown on Drawing No. 35, and of the scantlings figured thereon.

Art. 159 A. The partitions in nurses' dormitories are to be the whole height of story, with glass fanlights over door, and moveable sash as shown in detail.

Sash fr

Art. 160. Provide and fix sash frames to all ward window openings of wainscot, in accordance with Drawing No. 62, prepared for $2\frac{1}{4}$-inch wainscot sashes, with English oak sunk sills rebated, sunk and weathered and ploughed for lead tongue between oak and stone sill, fixed in sill with white lead, 1-inch wainscot inside and outside linings, the outside lining stopped and rounded off within 1-inch of sill, and 1-inch wainscot pulley-styles tongued to outside and inside linings, $\frac{1}{2}$-inch wainscot parting bead, $\frac{1}{2}$-inch deal back linings framed to outside and inside linings, $\frac{1}{2}$-inch pendulum slips, leaving $\frac{1}{2}$-inch on each side for boxing to play and nailed to groove in head, 1-inch pocket pieces 2 inches wide let into centre of pulley style, under-cut and rebated at top and squared at bottom 6 inches above the sill, 20 inches long, the inside beads to be of wainscot $1\frac{1}{2}$ inches wide by $\frac{3}{4}$-inch thick, pulley styles grooved and wedged in sill, nailed and grooved head, double hung with 2-inch brass framed pulleys, inside of oak sills to be sunk $\frac{1}{2}$ an inch as a key for cement apron.

The remainder of the sash frames throughout the building, except to boiler room, engine house, and coal store, are to be Memel deal-cased frames, prepared for 2-inch sashes, with English oak sunk sills, rebated, sunk, weathered and ploughed for lead tongue between oak and stone sill, fixed in sill with white lead, inch deal inside and outside linings as before, 2-inch deal heads and $1\frac{1}{4}$-inch pulley styles, tongued to outside and inside linings, $\frac{1}{2}$-inch parting beads, $\frac{1}{2}$-inch back lining nailed to outside and inside linings, $\frac{1}{2}$-inch pendulum slips, leaving $\frac{1}{2}$-inch each side for boxings to play, and framed to groove in head, and 1-inch pocket pieces, 20 inches long by 2 inches wide, let into centre of pulley style, undercut and rebated at top, and squared at bottom, 6 inches above the sill. The inside beads to be $1\frac{1}{4}$ inches wide by $\frac{3}{4}$-inch thick, pulley styles wedged and grooved in sill, nailed and grooved head, double hung with 2-inch

brass framed pulleys inside of oak sills, to be sunk ½-inch when cement aprons or slate window boards are shown. All to be well seasoned yellow deal.

Art. 161. Provide and hang to all ward windows 2¼ inch Dantzic oak sashes, bevelled bar, as shown on Drawing No. 62, dowelled and bevelled at meeting bar, prepared to hang double, with strong patent copper line, sufficiently stout to fill the sheave of pulley box, and secured with cast-iron sash weights. All bottom sashes to be stopped 2 inches from head of sash frame, and to be fastened with the best patent spring roller fastenings, one to each window, and to have two strong brass sash lifts to lower sash, and proper lines and pulleys for opening and closing the top sash.

The remainder of the sashes, except to where shown otherwise in detail on the several Drawings, or where iron sashes are specified, are to be 2-inch Memel yellow deal bevel bar sashes, dowelled and bevelled at meeting bar, prepared to hang double with best patent sash line and cast-iron weights, as above described, fastened with one best patent spring fastening to each window.

All windows, door panels, or fan-lights, glazed with plate glass, are to have the glass secured by a wainscot moveable bead or moulding, as shown, with brass screws and collars.

Art. 162. Provide and fix to all fan-lights over external doors of wash-house building 2-inch bevel bar sashes, or transom lights, all to be hung on brass pivots, and to have sets of lines and fastenings for opening and securing the same.

Art. 163. The windows to boiler room are to have 2-inch deal bevel bar sashes, double hung as before described, and to have sets of lines, pulleys, and fastenings for opening the same.

Art. 164. The windows to the six pavilion staircases are to be 2-inch bevelled bar, fixed as casements, and with weathered and beaded transoms, as detailed on Drawing No. 63. One casement in each staircase is to be made to open as a door, with 1½ pair of 4-inch wrought butts and ispagniolett fastening, as shown.

The semi-circular lights in the staircases are to be hung on hinges to fall back, and to have lines, pulleys, and brass fastenings for opening and closing the same.

Art. 165. The sashes of central staircase and chapel are to be of cast-iron, and of the section shown, bedded in the brickwork, and built in with cement.

Each octangular pane in the staircase windows is to be made to open, hung on pivots, and connected so as to open simultaneously by means of a vertical lever, with proper fastenings for securing the same when open or closed.

The chapel windows are to be similar, with panes made to open as shown, hung as those to staircase windows, with proper lines, pulleys, and brass fastenings for securing them.

Art. 166. The skylights to operating theatre are to be 2-inch wrought deal, glazed with rough plate glass, ⅛-inch thick, to be in every respect in accordance with the detail Drawing No. 60, and to have sets of lines and brass fastenings for opening and shutting the same.

Art. 167. The roof lights in pharmacy to be 2-inch level bar fixed, glazed with rough plate glass, ⅛-inch thick, and of the dimensions figured on detail Drawing No. 34.

Form in flat over corridor to lunatic wards a skylight of the dimensions figured, 2-inch bevel bar, glazed with rough plate as before, with proper deal curbs as figured, 1¼-inch tongued, and staff-beaded inside linings, and small deal moulding round inside of skylight.

The lantern of dead-house to be framed as shown, with wrought and framed angle posts 4″ × 4″, intermediate do. 4″ × 3″ grooved for louvres, plate 4″ × 3″; and to have metal sash bars, 1½-inches deep, screwed to framing.

Provide and fix on the four sides of lantern, louvres of inch-wrought deal, splayed both ends. The top to be glazed with rough plate as before, and the soffit lined with ¾-inch matched and beaded close boarding.

Art. 168. The windows of bath house, and the corresponding ones in the pharmacy, are to have 2-inch semicircular sashes, hung with hinges, with lines, pulleys, and brass-hook fastenings to open the same.

The frames to be solid, as shown, with oak sills.

Art. 169. Provide for six windows of provision stores in kitchen block, skeleton shutters of 1½ deal, prepared to receive wove fly wire-lattice, at prime cost of sixpence per superficial foot, hung with Parliament hinges as an ordinary shutter, and with two 6-inch bright bolts and wall fastenings to fir proper frames, 5′ × 4″, and oak sills 5″ × 3½″. See Drawing No. 56.

Art. 170. Provide and fix in partitions to non-commissioned officers' quarters, off central staircase, fixed lights of 1¼-inch deal, 4 feet by 3 feet, secured to linings with 1-inch rounded deal, to have inch framed chamfered grounds, and 1¼-inch rounded window boards.

Art. 171. Provide and fix to all ward nurses' rooms 1½-inch deal moulded sashes, 2 feet by 1 foot 6 inches, made to open, hung to 1½-inch framed and rounded linings, in width the full thickness of the walls, fastened with a small brass fastening, and glazed with 2nds crown glass in one sheet.

Art. 172. The sashes between kitchen and central staircase are to be 2-inch deal sashes of the same description as others throughout the building, but single hung and with 2½-inch oak sill, wrought, double-rebated, and double-beaded.

Art. 173. The large casements at ends of wards are to be 2½-inch wainscot bevelled bar in solid frames, as shown on detail Drawing No. 62. Ward casements.

To have wainscot turned shafts, moulded caps and bases, and moulded and rebated transoms. Those at the west end of main corridor are to be of similar description, but of deal.

To be glazed with polished plate glass, ¼-inch thick, secured by moveable wainscot beads with brass screws and collars, as specified for ward windows; to be hung with 1½ pair of 4-inch wrought butts, and secured with espagniolette fastenings dropped in, let into socket in oak sill.

Art. 174. The corridor casements are to be 2-inch deal ovolo moulded in fir, solid wrought and rebated frames, as per detail Drawing No. 43, hung with 1½ pair of 4-inch wrought butts, 1 leaf of each casement to be hung with 1½ pairs of knee-butts so as to fold back as shown, to have metal water bar, and to be secured with espagniolette bolt as shown. To have a deal architrave moulding, 6 inches girt, 1½ inch tongued and rounded window boards, with returned ends and deal moulding under, as shown on Drawing. Corridor casements.

Art. 175. The middle rails of all internal doors are to be prepared with two double tenons, to receive the mortice locks where specified. Doors and frames generally.

The bottom rails of all doors are to be prepared with 2 double tenons at each end.

The jambs in all walls of 14 inches and upwards in thickness, except where plaster is shown or specified, to be framed in panels to correspond with the adjoining doors.

The mitres of all architrave mouldings to doors and windows (except O'Gee's) to be cross-tongued with wainscot.

All external door frames are to be put together with white lead and to have cast iron shoes, sunk half an inch into the door step, and run with lead.

Provide and fix door frames to all external door openings to all the buildings, 5″ × 4″ (except where otherwise shown in detail), wrought, framed, rebated, and beaded for 2-inch doors, prepared for fan-lights over doors, where shown, with wrought, framed, double-rebated, weathered, chamfered, or beaded transom, and moulded where shown.

All external door frames to be set back 9 inches from the face of the wall.

Provide and fix door frames, 5″ × 4″, to all internal double door openings, and where the walls are not plastered, beaded or moulded at angles as shown.

The door openings of wards to have solid frames, 6″ × 3″, wrought, framed, double beaded, and hollowed out for swing doors, as shown on Drawing No. 55, with moulded transom and segmental head. Spuds and rings as before.

Art. 176. The entrance door to chaplain's quarters to be 2-inch yellow deal in four panels, the two upper ones filled in with polished British plate glass, ⅛-inch thick, and secured with moveable oak moulding, and brass screws and collars, bolection-moulded outer side, and bead flush on the other, and with three best 5-inch wrought butt hinges and stout screws. To have 8-inch bright rod bolts at bottom, and 18-inch ditto at top, dropped into iron sockets, leaded into stone sill. To have a 10-inch fine iron rim draw-back lock with round wards, brass handles and side plates on both sides, solid bow key, lettered and marked W.†D. Doors, external.

The remainder of the external doors to be 2-inch yellow deal, panelled as shown, bead flush and square, except where shown otherwise in detail or described. Those that have the upper panels glazed with plate glass will have wainscot moveable beads, secured with brass screws and collars, as before described. They are to have 10-inch fine iron rim draw-back locks, with round wards, brass handles and side plates on each side, with escutcheon fixed to doors with strong round headed 3-inch full cut screws, to have solid bow keys, lettered and marked W.†D., and no key to pass a second lock; to be kept open, when necessary, by self-acting brass back-fasteners.

The doors to boiler-house, coal store and wash-house to be hung folding, and to be 2½ inches thick. The doors in rear of front building are to be 2-inch four panel, bead flush both sides, the upper panels filled in with polished plate glass as before, hung with 1½ pairs of 5-inch wrought butts, and furnished with an 8-inch iron rim two-bolt lock, and two 10-inch barrel bolts, and brass furniture. Doors to orderlies' day room and staircase to be 2-inch two-panel bolection-moulded and bead flush, with hinges, locks, and fastenings as above. All external doors to be provided with brass mortice latches and bronzed handles.

Art. 177. The doors of all the main wards throughout, and day-room, are to be 2-inch wainscot, hung folding, to swing both ways, each door in two panels, moulded and bead flush, the upper panels prepared for polished British plate glass, ⅛-inch thick, bedded in wash-leather, with wainscot moveable fillets round glass, fixed with brass screws and collars; 2-inch wainscot fanlights over, with segmental heads, glazed with plate as before, beaded at angles, and hung on brass pivots with lines and fastenings. Each fold of these doors is to be hung with Smith's centre hinges, and to have a 9-inch cranked bronze handle, of an approved pattern. Also a plain bronze finger-plate, 18 inches long, upon the opposite side. Doors, internal.

Doors to water-closets and lavatories.

Art. 178. The doors to all ward water-closets, passages, and lavatories, also to nurses' rooms and sculleries, are to be 2-inch four panel, bead flush and square, hung with three 4-inch wrought iron butts and stout 2-inch screws. The doors leading from lobbies to water-closets are to be hung with Smith's patent spring hinges, and to have a large white Porcelain knob handle fixed on both sides.

The doors leading from lobbies to lavatories are to be hung with 4-inch wrought iron butts, and to have 6-inch mortice latch, with large bronze handles. The nurses' rooms and scullery doors are to have 8-inch two-bolt round ward locks, with hard wood knobs.

Corridor doors.

Art. 179. The doors in corridor are to be as per Drawing No. 55, hung to swing, and furnished similarly to ward doors. The upper panels are to be filled in with crown glass, 2-inch ovolo fixed side-lights and fanlights over, with moulded transom as detailed. The framing of these doors is to be well secured at bottom by wrought-iron dowels with strap ends, the dowels being let into stone paving and run with lead, and the strap end let flush into framing and screwed. The framing is further to be secured in its height by wrought-iron holdfasts driven into the brickwork, and secured to the framing.

Doors to separate wards.

Art. 180. The doors to separate and offensive wards are to be 2-inch four-panel doors, bead flush and square, and hung with three 4-inch wrought butts, 8-inch two-bolt rim lock, with hard wood furniture.

Folding doors.

Art. 181. The doors to operating theatre and operating ward are to be 2-inch four-panel doors, moulded and bead flush, hung with three pairs of 4-inch wrought butts, 8-inch two-bolt mortice lock, with hard wood furniture.

Nurses' water-closet doors.

Art. 182. The doors to nurses' water-closets, and all other water-closets throughout the building, excepting in orderlies' quarters, are to be 1½-inch two-panel square doors, with segmental heads wherever shown, and to have brass pulpit latches and 6-inch brass rod bolts.

Doors in basement.

Art. 183. The doors in basement, viz.: Doors to non-commissioned officers' quarters, dispensary, dispenser's quarters, provision stores, and officers' kitchens, are to be 2-inch four-panel square doors, with 8-inch iron rim locks, two bolts, and hard wood furniture. The doors to water-closets in basement are to be 1½-inch four-panel square doors, hung with 3½-inch wrought butts, brass pulpit latches, and 6-inch brass rod bolts, and hard wood furniture.

The doors of kitchen, pack-store, and other stores, are to be 2-inch four-panel square doors, with 10-inch iron rim locks, two bolts, hard wood furniture.

The wine, beer, and coal cellar doors are to be 2-inch, framed, braced, and ledged, filled in with inch yellow battens, matched and beaded both sides, and hung with three 4-inch cast-iron butts. Each wine and beer cellar door is to have a strong best-fitted pipe key wine-cellar lock, with metal bolt and ward, P.C., 15*s.* each.

Doors to coal stores to have 8-inch wood stock locks.

The doors of dissecting room and dead-house are to be 2-inch six-panel bead flush, and square doors with 8-inch two-bolt iron rim lock, hard wood furniture, and two 6-inch bright rod bolts.

The internal doors of board-room are to be 2-inch four-panel bolection-moulded and bead flush, hung with three 4-inch brass butts, and to have a 7-inch two-bolt mortice lock porcelain furniture, and porcelain finger plates on one side only.

The doors of officers' library and museum are to be 2-inch four-panel, hung folding, with three pair of 4-inch brass butts, moulded and bead flush, and to have 7-inch best mortice lock, with brass furniture, and two brass flush bolts, one 9 inches long, the other 24 inches.

The doors to small offices adjoining museum and board room are to be similar in every respect to those of ward nurses' rooms, with similar fastenings and furniture.

Chapel and library doors.

Art 184. The entrance doors to chapel and hospital library are to be 2½-inch, with raised panels, as shown on detail Drawing No. 58, moulded both sides, and hung folding with three pair of 5-inch brass butts, to have a 7-inch mortice lock, with hard wood furniture and flush brass bolts, 18 inches at top and 9 inches at bottom.

Doors to offices, front building.

Art. 185. The doors to all offices and officers' quarters on the ground and first floors of front building are to be 2-inch six-panel, moulded both sides, as per Drawing No. 54, hung with 1½ pair of 4-inch wrought butts, and to have a 6-inch two-bolt iron rim lock, with hard wood furniture and hard wood finger plates.

Doors next to rooms having square skirtings are to have the sides next rooms square, and between rooms with square skirtings in each to be square both sides.

Doors to orderlies' rooms and water-closets.

Art. 186. The doors to orderlies' rooms are to be 2-inch four-panel square doors, as shown on Drawing No. 54, hung with one pair of 5-inch wrought-iron butts, and to have an 8-inch rim lock, with two bolts and brass furniture.

The doors to orderlies' water-closets are to be 1½-inch two-panel square doors, hung with 4-inch wrought butts, and with a 4-inch round-japanned bolt to each.

The doors to officers' servants' rooms and nurses' rooms are to be 2-inch six-panel doors, moulded and square, hung with 1½ pair wrought butts, 7-inch two-bolt rim lock, and hard wood furniture.

The door to clean linen store is to be similar to that before described for officers' library door, except that it is to be bead flush and square, hung with 4-inch wrought butts, and to have a 7-inch stock lock.

The doors to lifts are to be 1½-inch four-panel bead butt and moulded doors, except in basement, which are to be square both sides, all hung folding, with 3½″ wrought butts, and fastened with two 6″ rod bolts, and brass turn buckle, with large knob handle.

Art. 187. The entrance doors to waiting-room and to orderlies' day-room to be 2-inch, as shown on Drawing, to be hung with 5-inch wrought butts, and to have each a 9-inch draw back lock, with brass furniture, and two 10-inch bright barrel bolts. Extern in gate

Door to porter's room to be similar, but to be provided with a 7-inch stock lock.

Art. 188. The doors to foul linen shafts on ground and first floors are to be 1½, framed in two panels, as shown on Drawing No. 83, and furnished accordingly with turn buckle as described for doors to lifts, and also to have a 3-inch brass lock, with all keys to differ. The doors to foul linen chambers in basement to be 1½ inch four-panel square doors hung with 3½-inch butts, and fastened with turn buckle and 5-inch brass lock, with all keys to pass. Doors t linen cl

Art. 189. The doors to ward water-closets to be 1½-inch, bead flush and square, in two panels, hung with 4-inch brass purpose-made butts, fixed to iron uprights as shown, and to have a strong brass water-closet latch. Water-doors.

Art. 190. The internal doors in washing establishment to be 2-inch framed, braced, and ledged doors, hung with three 4-inch wrought butts, and fastened with strong thumb latches. Wash-h doors.

The doors of quarters adjoining are to be 2-inch four-panel square doors, hung with 4-inch wrought butts, and fastened with a 7-inch two-bolt iron rim lock, with brass furniture.

Art. 191. Provide and fix to all internal door openings (except to large wards and other places where solid door frames are shown or specified) jamb linings and soffits, 1½ inches thick, prepared to suit the several thicknesses of the walls, wrought and double rebated for moulded doors, wrought and single rebated for square doors, ploughed, tongued, and grooved, and grooved and tongued at all angles, and beaded on edges or moulded wherever shown in detail. Jamb l

Art. 192. Provide and fix 1-inch yellow deal framed grounds round jambs on each side, wrought, beaded on one edge, and splayed for plaster. Frame and do traves.

The framed grounds apply to all moulded doors throughout the buildings, except where shown otherwise in detail. To be 4 inches wide, and to have an ogee moulding as architrave 2¼″ × 1½″. All doors specified as square doors are to have a deal fillet, 1½ inches wide, and chamfered to stop plastering, except where detailed.

Art. 193. Provide and fix to all the five windows in board-room 1¼-inch splayed and panelled jamb linings and soffits, bent circular, with 1½-inch panelled window backs and elbows, and beaded capping on same, all moulded, as shown on Drawing No. 56, 1-inch framed grounds 4 inches wide, splayed for plaster, architraves 7 inches girt, and square skirting to correspond with the skirting round the room. Panelle linings.

Art. 194. Provide and fix to all windows in centre building on first floor, and to all windows in Chaplain's and Purveyor's quarters, 1-inch jamb linings and soffits, tongued and staff beaded, with inch-framed grounds, 4 inches wide, and with ogee moulding, 2½ inches by 1 inch, 1¼-inch tongued and rounded window-boards, with moulding under as shown, and splayed grounds for plaster. Windo linings.

Provide and fix to all windows in non-commissioned officers' quarters similar jamb linings and soffits, splayed wherever shown, with similar rounded window-boards.

All other window jambs and soffits not included in the above (except to wards and rooms of ground floor of centre building) are to be of cement, staff beaded, and to have 1¼-inch tongued and rounded window-boards as before.

Art. 195. The windows of all dwelling-rooms on ground floor of centre building are to have 1½-inch two-panel front shutters, moulded and bead-butt, as shown on Drawing No. 40, 1¼-inch back flaps, bead-butt and square, hung with 1½ pr. of 3-inch wrought butts to each shutter, and 2½ inch back flap hinges. The shutters are to have brass latches and knobs, and 24-inch spring shutter bar fastenings, 1¼-inch bead-butt back linings, tongued to frame, 1¼-inch panelled window backs and elbows, with beaded capping on same, 1½-inch moulded panelled soffits, 1¼-inch boxing grounds, and architrave moulding, 7 inches girt. Boxing

Art. 196. Provide and hang 2-inch ledged flap of English oak to outside well to beer cellar, wrought both sides, ploughed and tongued, and put together with white lead, hung folding with iron hook and strap hinges, the hooks being let into stone and run with lead; hinges of wrought iron, the strap 2 feet long, 2 inches wide, ⅜ an inch thick at eye, and diminished to ⅝ inch at end, levelled on edges, and fixed to flap and ledges with four ¾ inch square wrought-iron screw bolts and nuts, with a Memel fir bearer under flaps 5″ × 4″ let into stone curb at each side, and secured on top side with wrought-iron hasps and staple, rivetted on a plate, with four screw holes in each plate, and fixed with 1-inch screws; and supply large padlock, thick warded, with bow and key fitted and stamped. Flap to cellar.

Art. 197. Provide and fix where shown on Basement Plan, a dust flap, 3 feet by 3 feet, hung folding, 2-inch deal wrought both sides, edges shot, ploughed, tongued, and beaded, with strong ledges chamfered, hung with iron hook and strap hinges, 15 inches long, 2 inches wide, $\frac{3}{8}$-inch thick, diminishing at ends, and fixed with screws as above. To have hasp, staple, and padlock as above.

Art. 198. Provide and fix in beer cellar wrought deal cask stands, of the lengths shown on plan, legs 6″ × 6″, sides 6″ × 6″, dished to bulge of cask, cross-bearers and legs, spaced at every 6 feet, morticed, tenoned and pinned, and to have $\frac{3}{4}$-inch round iron tie rod under each cross-bearer, with nuts and screws.

Art. 199. Provide open wrought and chamfered deal grating, 2 feet wide, $1\frac{1}{2}$ inch thick, in five widths of the dimensions shown on Plan of Orderlies' Lavatory, screwed to 3″ × $1\frac{1}{2}$″ deal wrought cross-bearers, one foot apart; also a similar grating to each bath-room throughout the building, and of the figured dimensions. Provide and fix in vapour bath a fir wrought and rounded grating, as shown on detail plan, on proper bearers, made in three widths, so as to be capable of being removed.

Art. 200. All the baths, except for orderlies and nurses, to have 2-inch wainscot wrought capping, rounded on edge as shown, and grooved to fit over baths and slate fronts. The capping to have proper bearers. The orderlies' and nurses' baths to have $\frac{3}{4}$-inch deal matched and beaded casing to fronts, and ends fixed to proper bearers, and to have 2-inch deal wrought capping, rounded on edge, and grooved to fit over bath and casings. Each bath is to have a $1\frac{1}{2}$-inch deal seat, 18 inches wide, with $1\frac{1}{2}$-inch framed back, as shown on Drawing No. 78, and moveable trellis foot-boards, 18 inches by 24 inches, as before described.

Art. 201. Provide and fix in the position shown on plan of chapel, a pulpit and lectern, or reading desk of deal, in accordance with Detail Drawing No.

Art. 202. Provide and fix to floor of chapel as shown, seats in accordance with Drawing No. 75, 2-inch diminishing wrought deal seats, with rounded edges and ends, and wrought deal chamfered backs. The standards throughout are to be of cast-iron, with flanged ends and sockets, and secured to the floor with stout screws.

Art. 203. The Contractor is to provide a table and two chairs for the altar of chapel, as will be directed. For this service a sum of £20 (twenty pounds) is to be included.

Art. 204. Provide for garden No. 10 garden seats, 10 feet long, with cast-iron bench ends and intermediate standards, similar to those described for chapel, with $1\frac{1}{2}$ wrought deal chamfered open seats, 14 inches wide, rounded front edge, $1\frac{1}{2}$-inch deal wrought and chamfered sloping backs as for chapel, and 2-inch deal open foot-boards, 10 inches wide, on proper bearers. These seats are to be secured by short bolts to 4-inch tooled York sills, bedded in the ground.

Art. 205. Provide and fix in waiting-room four benches, 10 feet long, similar in every respect to those described for chapel.

Art. 206. The staircase to chapel gallery to be of deal, with well-hole as shown, and with curtailed end to bottom step, $1\frac{1}{4}$-inch wall strings, ramped and mitred as may be directed, with $\frac{7}{8}$-inch torus moulding upon same, $1\frac{1}{2}$-inch cut, mitred, and staff beaded strings wreathed round well-hole, $1\frac{1}{4}$-inch tread with rounded nosings returned upon strings, inch risers well glued and blocked together, as also the strings, and connected with the step beneath by two $2\frac{1}{2}$-inch screws; strong fir carriages and bracketings, $1\frac{1}{4}$-inch landings and bearers where necessary, and $\frac{3}{4}$-inch staff-beaded apron linings. Oak rounded hand-rail out of $3\frac{1}{2}$″ by $2\frac{1}{2}$″, with ramps and wreaths as required, and scroll at bottom step; $\frac{3}{4}$-inch square bar balusters, one to each step, and a plain cast iron newel with bolt hole, and screwed to steps with 2-inch screws.

The steps to non-commissioned officers' quarters are to have $1\frac{1}{2}$″ deal treads with rounded nosings, $1\frac{1}{4}$″ risers, glued and blocked with strong fir carriages and bracketings, and $1\frac{1}{2}$-inch torus wall strings, ramped and mitred as may be directed, and of the same width as the deal skirting to adjoining rooms.

Art. 207. The gallery of the chapel is to be constructed as shown on Drawing No. 33. The transverse girders, 9″ × 6″, are to be in one length, plugged into stone corbel as shown, and framed to receive the longitudinal bearers, which are to be bolted and tenoned into it with bolts. Bearing joists 10″ × 4″.

The flooring to be 2-inch in batten widths, wrought on both sides, grooved and iron-tongued, with under edges chamfered as shown, the upper edges of all steps to be rounded.

The under edges of all bearers, girders, and joists to be either beaded or stop-chamfered.

The gallery front to be $2\frac{1}{2}$ inches, framed with circular heads to panels, stop-chamfered, as shown on Drawing No. 59, securely fixed with four wrought-iron knee straps, 3 feet girt, of $1\frac{1}{2}$″ × $\frac{1}{4}$″ iron, and screwed with eight 2-inch screws, countersunk and let into floor and framing.

Art. 208. The gallery of operating theatre is to have five framed trusses, as shown on the section, braced together with cross ties 4″ × 4″, having 3″ × 4″ carriages for platforms, strongly bolted together, with all necessary struts and blockings. The flooring is to be $1\frac{3}{4}$-inch deal grooved and tongued with hoop iron, having rounded nosings, with moulded blocks under; the risers are to be 1-inch matched and beaded deal. Provide and fix steps in centre, and staircase at the back as shown, with $1\frac{1}{2}$-inch treads and 1-inch risers, with curtail step on proper fir carriages.

The back is to be cased with $\frac{3}{4}$ matched and beaded boarding, and the front is to have $1\frac{1}{4}$-inch framed and moulded spandrils, as shown on Drawing No. 60.

Art. 209. The water-closet sare to have fittings as follows :— Those attached to all wards and for medical officers are to be of wainscot; the nurses' and orderlies' closets to be of deal, inch fronts clamped, and made to slide in grooved uprights, screwed to strong framed bearers tenoned into floor and paving; inch tongued seats, rounded on front edge, tongued to risers and screwed to bearers. The flaps and frames to be $1\frac{1}{2}$-inch, with rounded nosings and hollow mouldings tongued on; frames beaded and flaps clamped with mortice clamps, mitred at each angle, and hung with 3-inch strong brass butts. Fix round seats $\frac{1}{2}$-inch beaded skirtings, 5 inches wide, tongued at angles with returned beaded ends, and fixed to slate and iron with 2-inch solid-headed brass screws in sockets. The frames of the seats, flaps, and all the fittings connected therewith are to be made removeable, and with such concealed mode of fixing as may be approved. Cut holes in seats, with edges rounded, and for handles with beads mitred round. Seats and risers to water-closets.

Art. 210. Prepare and fix (to proper grounds) $1\frac{1}{4}$-inch framed casings to all pipes, in two panels, the whole height of story, $8\frac{1}{4}$ inches wide and hung with three $2\frac{1}{2}$-inch brass butts, and each to have small brass latches and keys. Pipe casings.

Art. 211. Fix to all water-closets a deal painted paper-box, and in such position as may be pointed out. Paper box.

Art. 212. The sides and soffits of all cisterns exposed to view are to be lined with $\frac{3}{4}$-inch wrought deal, grooved, tongued, and beaded, and staff-beaded at angles, with proper backings for securing the same to cisterns, one panel in side lining is to be of perforated zinc and the panel in soffit under unions to pipes is to be made moveable. Cistern linings.

Art. 213. Provide and fix to all the ward staircases 2-inch oak treads, wrought both sides, rebated and moulded, with ends returned as shown, and all joints to be double-tongued. Staircase treads.

Art. 214. Provide and fix 3-inch perforated oak quadrants to the walls of large wards, to prevent the beds from coming in contact with the walls, securely screwed to the floor, as per detail. Skirtings.

Two-inch quadrant deal skirting round all rooms in wash-house that have limewhited walls and wood floors.

Fittings.

Art. 215. Provide and fix in the stores, as shown on Plans, racks for bedding, and patients' packs; the framework to be of Memel fir, wrought and framed in the manner shown on Drawing No. 90, and of the dimensions marked thereon. Fittings in stores

Provide and fix shelves in bedding store where shown in accordance with the detail. The wall at back to be lined with $\frac{3}{4}$-inch matched and beaded deal, and the shelves to be fixed on wrought-iron brackets.

Provide and fix drawers and shelves in utensil store in position shown on Plan, and in accordance with the Drawings, and to be made as follows :—The drawers are to have $1\frac{1}{4}$-inch front, $\frac{3}{4}$-inch sides, and 1-inch bottoms, with two strong wrought-iron japanned handles on plates to each drawer. The table shelf is to be $1\frac{1}{2}$-inch thick, ploughed and cross-tongued, and the other shelves $1\frac{1}{4}$-inch thick, grooved into divisions $1\frac{1}{2}$-inch thick and 2-inch ends. The cornice moulding is to be as shown, and scribed to the ceiling.

Art. 216. Provide and fix two dwarf dressers in hospital kitchen, and two ditto, 10 feet long, in dry store, in accordance with Drawing No. 91. The top to be planed both sides, ploughed and cross-tongued, and securely fixed to the framing with elm buttons, as shown. Dressers.

The dresser with plate rack over for the hospital kitchen, and the dressers for the five medical officers' kitchens, are to be of the size and dimensions shown on the Drawing, and framed agreeably thereto; to have $1\frac{1}{2}$-inch ploughed and tongued top, as before described, fitted with drawers and cupboard fronts, to be hung with $2\frac{1}{2}$-inch wrought butts, and to have best cupboard locks, bright neck bolts, and hard wood knobs.

Art. 217. The division in potatoe store is to be of yellow fir, framed, as shown on detail, with $5\frac{1}{2}$″ × 4″ rebated and beaded sill, $5\frac{1}{2}$″ × $3\frac{1}{2}$″ rounded, ploughed, tongued, and beaded head-rail, 3″ × 3″ braces, and $1\frac{1}{2}$-inch matched and beaded filling-in. Potato stores.

Art. 218. Provide and fix bins in dry store of yellow fir, in accordance with the Drawing. The front is to be $1\frac{1}{4}$-inch square panelled framing, bottom of inch deal ploughed and tongued, nailed on bearerers, as shown, with $\frac{3}{4}$-inch matched and beaded back lining, fixed to $1\frac{1}{4}$-inch grounds, 1-inch divisions, and $1\frac{1}{2}$-inch framed covers, hung with 14-inch cross-garnet hinges, and fastened with a superior padlock, with hasp and staple fitted in the neatest manner. Two of the bins to be lined, as shown, with sheet tin, close tacked, and with soldered angles. Bins.

Art. 219. Provide and fix deal presses in purveyor's and registry rooms, in accordance with the Drawings, fitted with $1\frac{1}{2}$-inch cupboard leaves in lower part, hung with $2\frac{1}{4}$ brass Presses.

butts, and fastened with a superior cupboard lock, and hard wood knob to each.

The press in medical officers' room is to have drawers and cupboard in the lower part, as above described.

Desks.

Art. 220. Provide desks with wainscot table tops in each office, 1½-inch cross-tongued top, with moulded nosing tongued on, covered with leather and buttoned down, the ends to be 1¼-inch bead flush, with rails to front for drawers and proper runners. Put moulded plinth round. The drawers to have ¾-inch bottoms and rims, and 1½-inch fronts, each to have a brass lock and hard wood knobs. Tops to be French polished.

The desks for the clerks' offices, in accordance with the Drawings, are to be of deal, wainscot top with rounded edges made sloping, but not covered, and to be fitted with moveable brass rails and standards, as detailed.

Dispensary fittings.

Art. 221. Provide and fix deal dresser and shelves in dispensary with doors and drawers in front of lower part as Drawing, 1½-inch deal top, front framing under drawers and sides, 1½ inch wainscot middle and bottom rail, wrought both sides and beaded, 3 inches wide, framed to beaded rail, under drawers 3″ × 2″, and framed to runners, rail under top 2″ × 2″, wrought both sides and beaded to uprights between drawers, back rail wrought both sides, framed to runners and nailed to back linings 3″ × 2″ under top; oak runners for drawers 3″ × 3″, double and single rebated at sides; ¾-inch back lining planed on one side, rebated and nailed to back edge of sides, top, bottom, and uprights; drawer fronts of 1¼-inch deal, wrought both sides, dovetailed to sides and ploughed for bottom and blocked, sides of ¾ inch deal, dovetailed to sides and nailed to bottom; bottom ⅜-inch, tongued to sides and nailed to back; to turn and fix a hard wood knob to each drawer, screwed and glued into front; fronts blocked to stand flush with front framing, and to be secured with one 3-inch brass drawer lock to each of the drawers; the doors to be in one panel of 1¼-inch deal, wrought framed bead and flush fronts and square back, hung folding, and secured with a brass flush bolt at top and bottom, and to have a turned hard wood knob to each, similar to the drawers; panels 1½-inch thick, to be hung with 2½-inch brass butt hinges, and each secured with a 4-inch brass cupboard lock, with fine wards and iron plate ⅛ inch thick, let in flush and screwed with two screws on stile of door to receive bolt of locks; 1¼-inch deal sides and divisions for upper part of shelves, 10 inches wide and wrought both sides, let into top, grooved, framed to shelves, and sides rebated for back; 1-inch deal shelves, wrought both sides, framed to sides and uprights, with ⅜-inch deal front to upper shelves, shaped as shown in the Drawings, deal cornice 3 inches thick and 4½ inches girth, mitred at corners; ¾-inch wrought, beaded, and matched deal backs, planed both sides, rebated and nailed to rebate of sides and back edge of top of dresser and divisions.

Shelves.

Art. 222. Provide and fix in each orderlies' room 1½ inch wrought two-sides deal shelving, cross-tongued, with rounded edges and corners, and mitred where necessary, 14 inches wide, averaging 3 feet lineal per man, to be fixed where directed on light iron brackets, and provide strong japanned pegs, two to each man, screwed to wrought and chamfered deal rail, plugged to wall, and fixed where directed.

Also provide and fix 200 feet of 1¼-inch wrought deal shelving on proper fir bearers as may be directed.

Closets in non-commissioned officers' quarters.

Art. 223. Provide and fix in one room of each non-commissioned officer's quarters, and in each single quarter, including those in wash house building, a dwarf closet, 3 feet 6 inches high, to fit recess on each side of chimney breast, 1¼ inch deal wrought framed and beaded fronts, with 1¼-inch framed square and flat both sides, one-panel doors, hung folding, with 2½-inch wrought butts. Tops to be of 1¼-inch deal, wrought both sides, ploughed and tongued, with rounded nosings, ½-inch deal skirting, 5 inches high. Each closet to have two shelves of 1¼-inch deal, wrought both sides, ploughed and tongued joints, and one shelf of 1-inch deal, wrought one side, supported on wrought and chamfered fillets plugged to wall. Each closet to be provided with a 4-inch brass spring tumbler lock, with bow of key filled in and engraved, a 4-inch plate-necked brass bolt, with brass plates. Fix over each closet two shelves of 1¼-inch deal, wrought both sides, ploughed and tongued joints, on wrought chamfered fillets plugged to wall. Where the rooms do not admit of a cupboard on each side of the chimney-breast, a dwarf dresser of the above description, 5 feet 6 inches long, is to be fixed where directed.

Rails and cloak-pins.

Art. 224. Provide and fix 1¼-inch wainscot rail, 4½ inches wide, planed one side, beaded both edges and ends returned, fixed 7 feet above floor to wood blocks, fitted with wrought-iron cloak and cap pins, in such rooms as may be directed. The pins to officers' rooms to be brass. The length of rail required will be 100 feet, and the number of japanned pins 60, and brass 40.

Bookcases.

Art. 225. Provide and fix in officers' library, deal bookcases in accordance with the Drawing. The sides are to be 1¼ deal, wrought both sides and let into top. Wrought and moulded cornice and plinth with mitred angles as shown, with 3-inch square pilasters and solid moulded trusses. The shelves to be 1¼-inch deal, wrought both sides, fixed and removeable at pleasure by means of brass pins and catches, fastened to stiles, as shown in detail on Drawing No. 94.

The bookshelves for men's library to be of yellow deal, to have 1⅜-inch ploughed and tongued top, 1¼-inch shelves, fitted to 1¼-inch divisions and 1½-inch ends; the bottom is to rest on bearers 4″ × 2″, with a ¾-inch chamfered plinth, 5 inches high; the back is to be ¾-inch matched and beaded boarding, nailed to divisions and ends, which are to be rebated to receive the same. 1-inch beaded fascia, 11 inches wide, is to be fixed to cornice, with 2½-inch deal moulding, 5 inches girt, doubled mitred at ends, as shown on Drawing.

Ladders.

Art. 226. Provide ladders; sides of Norway poles with English oak cleft rounds, 10 inches from centre to centre, every sixth and the two end ones to be of iron, properly secured with nuts; the nuts to be round and sunk flush with the sides.

Length and size of ladders, as follows:

	Bottom.	Top.	Sides at Bottom.	Sides at Top
Two 60 rounds -	18 ins. wide	14 ins. wide	8 × 4	5 × 3
Two 35 „ -	14 „ „	10 „ „	6 × 3½	3¾ × 2
Two 25 „ -	13 „ „	9 „ „	5½ × 3	3¼ × 2

Window

Art. 227. Fix to such of the windows as may be ordered, best white Holland roller blinds, with lines, racks, &c., complete.

The number required is 542.

Operatin

Art. 228. Provide an operating table for lecture room, for which include a sum of 12 guineas, P.C., to be manufactured by E. Whibley, 41 Radnor-street, Chelsea.

Wainscot

Art. 230. Wainscot table for board room and officers' library to have 2½-inch cross tongued top, with moulded nosings tongued on, covered with leather and buttoned down, with turned and moulded legs as shown on Drawing No. 94. Three of these tables will be required. They are to be French polished.

Deal tabl

Art. 231. Provide in each of the large wards, tables measuring 12′ 0″ × 3′ 6″, with 2″ deal tops, cross-tongued at joints, on stout legs tapered. Two similar tables to be provided for the day rooms, and two for the hospital library. One ditto 5 feet by 3 feet for bread store, and one ditto 7 feet by 3 feet for dead-house. One ditto, 10′ 0″ × 4′ 0″, with 8″ drawers on each side, made as described for articles of a similar kind.

Bread rac

Art. 232. Provide and fix on each side of bread store three tiers of racks, 12 inches wide. To be of open wrought deal lathing, 1¼″ × 1¼″, six in each width, screwed to stout deal cantilevers plugged to wall.

Rails and

Art. 233. Provide and fix in each utensil store in the basement two ranges of wrought-iron bar rail 2″ × ¼″, fixed where directed with light wrought-iron brackets built into the wall, and provide No. 180 2″ moveable wrought double hooks for ditto. Two rows of similar rail built into wall, 3″ × ¼″, with 20 similar hooks provided and fixed in meat store.

Cantilever ladders.

Art. 234. Provide and build in where directed No. 10 wrought iron double cantilevers of approved pattern, weighing 45 lbs. each, in the basements under wards for suspending ladders.

Towel roll

Art. 235. Provide and fix towel rollers of deal, 1 foot 6 inches long, clear of the gudgeons, 2½ inches diameter, with proper brackets fixed in each lavatory in the front building where directed. Those in the ward lavatories to be of ash turned, 18 inches long.

Hot closet

Art. 236. Provide and fix in each ward scullery a hot closet in the position shown, 2′ 0″ × 1′ 6″ and 5 feet high, 1¼″ deal framed square and flat fronts, hung folding in two panels, each with 3″ wrought butts, and fitted with three tiers of cast-iron open galvanized shelving 1⅜ths-inch thick on wrought chamfered fillets. Ogee moulded capping, and ¾″ wrought one side deal top. A small closet latch to each.

No. 21 of these closets will be required.

Sherringha ventilators

Art. 239. Provide and build in where directed, No. 303 Sherringham's ventilators, bronzed, for ventilation of wards. Also, No. 49 ditto, 13½″ × 6″, for ventilation of water-closets and lavatories. To be fixed complete with brass screws, and with hooks, lines, &c.

Founder and Smith.

Castings.

Art. 240. All the castings are to be made of strong grey (No. 3) pig iron, cast from second melting, of qualities approved by the Superintending Officers.

All the cast-iron work must be perfectly smooth castings, of the full dimensions shown by the Drawings, correctly placed, and the girders under the main walls to be bedded on layers of 6lb. lead at their respective proper levels.

The remainder of the girders to be bedded on felt.

The Contractor is to provide all patterns necessary, and to make alterations in the same, from time to time, as may be required.

The quality and strength of all castings must, before they are placed in the building, be submitted in the presence of the Superintending Officer, or some person appointed by him, to a proof not exceeding half the breaking weight.

All expense and risk attending such proving shall be borne and paid by the Contractor. All castings found defective from indifferent material or workmanship shall be rejected and replaced.

Art. 241. All cast-iron girders, lintels, &c., are to have one coat of lithic paint before they are fixed in the building, to be applied immediately after they have been accepted.

Art. 242. The whole of the joists and wall plates to ward floors, and such other places, when Fox and Barrett's floors are indicated, will be provided and delivered on the works by Mr. Barrett, York-buildings, Adelphi, and fixed by the Contractor.

Art. 243. The columns, girders, lintels, bearers, &c., to be cast as shown on the several details, proper bearing plates, meeting flanges, shoes, &c., are to be cast on at the required levels and situations, and bolt holes where necessary for the tie-bolts and junctions, and for securing wood flitches, cradling for beams, &c., the holes being thickened around with rims.

Art. 244. The iron columns for covered way and for chapel, with the moulded caps and bases, to be clean and fine castings. The bottoms of columns to be let into stone, and run with lead.

Art. 245. The iron sashes and skylights in stores, chapel, principal staircase, and wherever else shown on drawings, to be finely cast, built into brickwork, with lugs. There will be three sizes of these sashes required. Those for Nos. 1, 2, 3, and 4 Pavilions to be according to Drawing No. 72, measuring 3 feet 4 inches high. Those for Nos. 5 and 6 to be 4 feet 4 inches high; and those for No. 7 to correspond in height with windows in board-room, officers' library, museum, &c.

Art. 246. Fix from the gutters and flats of all buildings stacks of 4-inch cast-iron rain-water pipe, wherever shown on drawings. The weight of piping to be 6 lbs. per foot run, with proper heads, shoes, and bends to each stack, and a cast-iron spherical grating over each.

The stacks upon the north, east, and west fronts of centre building to be cast ornamental, as per Drawing No. 72.

Art. 247. All eaves guttering, wherever shown, to be fixed with strong brackets or clips.

Art. 248. Provide cast-iron standards for seats of chapel, of waiting-room, and for garden, in accordance with Drawing No. 75.

Art. 249. Fix to the staircase of the centre pavilion and the landings thereof ornamental cast-iron balusters, according to Drawing No. 52, top rail of $1\frac{1}{4}'' \times \frac{1}{4}''$ wrought iron, let into and screwed to the handrail and balusters, rivetted at top and bottom, as shown. The staircases to the other pavilions and to officers' quarters (centre building) are to be provided with balusters, as shown on drawing, with handrails as before described.

Ornamental standards to Communion table, as shown.

Art. 250. Provide and fix cast-iron strings and carriages for ward staircases, properly trussed, with open trellis pattern risers, as shown, cast with all proper holes, collars, and flanges to receive the wrought iron bolts for securely fixing the same, in accordance with Drawing No. 95.

The strings forming carriages of staircases to be trussed with wrought iron in the manner shown, care being taken that the tension rods are properly adjusted.

The outer angle of quarter spaces of each ward staircase to be supported with 2-inch wrought-iron standards or brackets, as shown.

The strings of central staircase to be strengthened with a 2-inch wrought-iron standard, as shown, and the space beneath to the height of railing filled in with 1-inch wrought-iron balusters.

The quarter space of stone staircase, leading to basement of No. 7 Pavilion is likewise to be supported with a cast iron flanged standard, as per detail.

Art. 251. The railing to flat over corridor and to covered way, where shown, is to be cast in panels, leaded into stone curb at bottom, with $1\frac{1}{2}$-inch round wrought-iron top rail.

Art. 252. The standards to boundary wall, to flat over corridor, and the dwarf standards on terrace wall, are to be cast, as shown, perforated for top and bottom rails, which are to be let in and run with lead, and let into stone curb or coping, and run with lead.

The standards to water-closet partitions with hinges cast on, and with solid ends, as shown. These standards are to be galvanized.

Art. 253. Provide and bed on brickwork of fence walls, north and east sides, also on the entire length of terrace wall, cast-iron coping with socket-joints, and of the form, thickness, and lengths figured on the Drawings.

Art. 254. Supply and fix cast-iron chimney pieces of the patterns shown on Drawing No. 76, and made to fit the several openings figured on the Drawings. The parts to be cast with flanges, with holes for fixing, with nuts and screws to ends of wrought-iron cramps, built into and turned down in the brickwork.

The number of these chimney pieces required is four.

Art. 254A. The ward stoves, consisting of bases and external casings of cast-iron, enclosing fire clay lumps, will be provided to the Contractor, but the flues, consisting partially of cast and partially of wrought iron, and connecting the stoves with the flues in walls, are to be provided by the Contractor in strict conformity with the Drawings furnished.

Great care must be taken that the castings are perfectly sound and true, and likewise that the junctions with base plate and smoke flue are absolutely tight. The cast-iron flue under base plate, and also the abutting and intermediate wrought iron length, are both to be cased with thin sheet iron No. 22, B.W. gauge, as shown, and the space around the former $\frac{7}{8}$th of an inch, run with a mixture of fire clay and lime.

The trapezium shaped space under hearth is to be similarly protected with sheet iron, No. 14, B.W. gauge, and spaced filled with fire clay lute; the space round moveable wrought-iron flue to be left unfilled. The junction between the various lengths of flue is effected by iron clamp bands, hinged below, and fastening with a screw above.

Great care must be taken that these fit accurately, and that they correspond in every part with the Detail Drawings furnished.

The stoves are to face one another in the wards, as shown on plan. The castings for these will be supplied by Messrs. Kennard, and the fire lumps by Mr. George Jennings.

Art. 255. Properly fix all the ventilating grates and ranges, with mantel shelves and fenders complete, in orderlies' rooms and non-commissioned officers' quarters, with all necessary cramps. These articles, manufactured by Messrs. Kennard, will be supplied and delivered by the War Department. Provide and fix in officers' library and museum two 18-inch Nettleton's ventilating stoves, and one 14-inch do. in bed-making room. Ventilating stoves and grates.

Art. 256. Provide register stoves adapted to the several openings as detailed for the four small rooms in front building. Register stoves.

Art. 257. Provide and fix No. 27 self-acting ranges, with ovens and back-boilers and fittings, all to be of approved pattern, with brass boiler-taps and screw ferrules, and adapted to the several openings. Ranges.

Also provide and fix in the hospital kitchen, where directed, a large roasting range, W. D. pattern.

Art. 258. Provide and fix in the walls, where required, for sweeping ward flues, soot-doors, according to pattern to be seen at the War Office, with hinges, fastenings, and frames, and finely-ground joints. Soot-doors.

The number of these soot-doors required is 89.

Fix round doors, properly bedded in putty and plaster, Hartley's patent rolled plate glass $\frac{1}{2}$-inch thick, as per sketch, for the purpose of protecting the brickwork in the immediate vicinity from being discoloured by the soot.

The top edge to be protected with a copper eaving let into brickwork.

Art. 259. Provide and fix in bath house and pharmacy circular staircases as shown, with open trellis pattern treads and risers and centre newel. Each tread and riser, with the outer string, is to be in one casting, the inner angle forming a cylinder through which the wrought-iron newel is to pass, and the outer angles to be cast with bolt holes, collars, &c., to receive the wrought-iron bolts which will connect each step with those adjoining. Spiral staircases.

For these staircases include the sum of £50.

Art. 260. Provide No. 50 cast-iron shoe scrapers according to detail. Shoe scrapers.

Art. 261. Provide and fix Barlow's floor lights, 21-inch diameter, as shown, to the coal and wine cellars. Pavement lights.

Art. 262. All the urine basins to be white enamelled ware, Jennings' Patent, and in every respect similar to pattern to be seen at the War Office, Pall Mall, and fitted with self-acting treadle apparatus. Urinals.

Art. 263. Provide for all external door-frames cast-iron shoes, as per pattern to be furnished. Doors shoes.

Art. 264. Provide and fix in orderlies' and nurses' bath-rooms, No. 5 cast iron baths, 6′ 6″ × 2′ 3′ × 2′ 3″, of the form shown on the Drawing. Baths.

Art. 265. Provide and fix cast-iron capping and sockets to all slate partitions, wherever shown, the ends to be let into the wall and properly wedged. The whole of this work is to be galvanized. Capping.

Art. 266. Cast-iron bearers of the profile shown on Drawing No. 69, to be provided for carrying the flagging in the corridor of front building, to be caulked into stone templates at each end, and run with lead. Bearers.

Art. 267. Provide and fix, with all necessary bolts, screw-bolts, nuts, washers, &c., all requisite heads, shoes for binders, heads and feet of rafters, tie-beams, partitions, &c., as may be ordered, or wherever detailed on the Drawings. Heads and shoes.

Art. 268. Provide and fix, with $1\frac{1}{4}$-inch stout countersunk screws, round all the orderlies' rooms on the second floor of front building, skirtings, as per regulation pattern, weighing 2 lbs. 10 oz. per foot lineal. Skirtings.

Art. 269. Provide and fix in entrance gateway, one pair of ornamental gates, in accordance with the Drawing No. 74, fitted and framed as shown, with gun-metal pivots and sockets at bottom, and gun-metal rollers and bearers at top, let into bottom rail. With lock and all necessary bolt fastenings of approved design, and with rising and falling gate-stop properly fixed. Gates.

Similar ornamental gates, as detailed, to be provided for the foot entrances, fitted and framed with gun-metal bearings at top, and gun-metal pivots and sockets at bottom, each to have a 2-bolt spring lock and box staple.

Art. 269A. Provide and fix, where shown on basement plan, dust shoots of similar construction to those specified in Art. 258 for soot, and in accordance with detail drawings; also provide for dust shafts, on ground and first floors, doors of approved construction. *See* Detail Drawing.

Art. 269B. Provide and fix in nurses' dormitories in line of framed partitions, two cast-iron stancheons under girders, as per detail. Also provide and fix No. 8 cast-iron columns 6 inches diameter under girders, in orderlies' dining room and clean linen store.

Wrought Iron.

Wrought-iron girder.

Art. 270. Provide and fix over front of drying closet in wash-house a wrought-iron girder, in accordance with Drawing No. 108, the ends to be bedded on stone templates, with 5 lb. lead.

Roofing.

Art. 271. Provided and fix over wash-house the wrought-iron roof in accordance with Drawing No 112. Each rafter to be in one length, and the curved ribs in two lengths, jointed and coupled as shown. All drills to be carefully executed, and all bolts, nuts, and screws provided which may be requisite for fitting and fixing the roof in the most complete manner. The feet of rafters to be properly secured to stone templates, and bolted with inch rod bolts, as shown. The butting ends of rafters are to have a vertical joint, truly fitted and bolted with wrought screw bolts and nuts.

Chimney bars.

Art. 272. Provide and fix to all chimney openings wrought-iron chimney bars, cambering 3 inches, with 9 inches bearing on each jamb, and caulkings let into brickwork at each end of bar. Size of bar throughout 3″ by ½.″

Stirrup irons.

Art. 273. Put to each of the king or queen posts to all trusses a stirrup turned up in one piece, 2″ by ⅜″, with bolts and key wedges complete.

Straps, &c.

Art. 274. Put to the feet of the principals throughout, wrought-iron straps, 2″ × ⅜″, holed for bolts, ¾-inch round screw bolts, with nuts and washers complete.

Ridge irons.

Art. 275. Supply all ridge irons that may be necessary for the carpenter's use in fixing ridge rolls.

Straps, &c.

Art. 276. Provide straps, bolts, and ties for the framed partitions in the front building, in accordance with Drawing No. 35.

Chapel and wash-house roofs.

Art. 277. The chapel and wash-house roofs to be formed with wrought-iron T principals, curved T ribs, flat iron struts and connections, cast-iron shoes and sockets, with screw bolts and nuts, and rivets, as detailed on Drawings Nos. 33, 112, and 113.

Roofing of covered-way.

Art. 278. The roof over entrance to officers' library in basement is to be constructed, as shown on Drawing No. 71, with T iron principals, tension rods, rolled purlins, wrought-iron connecting pieces, cast-iron guttering and shoes, with all necessary screw-bolts, nuts, washers, rivets, &c. The joints of guttering to be secured with oil cement, and laid to a proper fall.

Wrought-iron balusters.

Art. 279. Fix to the orderlies' stairs, nurses' stairs, stairs from officers' quarters to basement, as well as the stairs to chaplain's quarters, boiler room, and central staircase to kitchen, 1-inch round wrought-iron balusters, two to each step, with wrought-iron newels, 2 inches diameter, and wrought-iron hand-rail, 1½″ by ¾″, and rounded on top. The balusters to be rivetted at top into rail, and let in at bottom into stone steps, and run with lead.

Rolled eaves gutter.

Art. 280. The eaves guttering along two sides of all the pavilions, with the exception of the chapel and ends of wards, to be No. 10 gauge, in 6 feet lengths, fixed with 2-inch galvanized screws, 12 inches apart, as shown on Drawing No. 51, and the joints secured with iron cement, and clips of the same gauge, 2 inches wide.

Louvred ventilators.

Art. 281. Provide and fix in all wards and in all chimney breasts where ventilating gratings are used, louvred ventilators, with moveable fronts, screwed on in accordance with the detail.

Brackets for scullery sinks.

Art. 282. Provide No. 24 strong wrought brackets as per detail, for supporting enamelled sinks in ward sculleries.

Entrance gates in boundary fence.

Art. 283. The gates to cart entrance, also the gate at S. E. angle of site, are to be of wrought-iron, put together and fixed, as shown on Drawings, with locks and stout fastenings.

Guard bars.

Art. 284. Provide and fix wrought-iron guard bars in windows of the chapel, as shown on the Drawings, also to three front windows of linen store in front building.

Fence railing.

Art. 285. The whole of the railing, with the exception of the standards on the north and east boundary, is to be of wrought iron of the figured dimensions, put together as shown. The standards are to be let into the iron coping, and screwed with nuts underneath.

Safe.

Art. 286. Provide and fix, where directed, a safe of approved pattern, 6*l.* P.C.

Plasterer.

Lath, p

Art. 287. Lath, plaster, float, set, and whiten two coats, the ceilings and quarter partitions of the whole of the rooms, staircases, passages, corridors, &c. The lathing to be lath and a half heart of fir laths, free from sap. The laths not to overlap at ends, but to abut against each other, to be nailed separately, and to break joint every 3 feet.

Walls a ings of

Art. 288. The walls, jambs, and soffits, except itch and lunatic wards, operating and offensive wards, to be covered with two coats of Parian cement. The first coat is to be floated half an inch thick, with equal parts of cleaned washed sharp sand, and the surface dragged while soft, but not made too rough; on the next day a setting coat of pure Parian cement, $\frac{1}{16}$ths of an inch thick, is to be laid on, and floated with a beech float and finished surface, equal to sample to be seen at the War Office, Pall Mall.

The walls of operating and offensive wards, ward waterclosets and lavatories, and passages leading thereto, are to be covered with Parian cement, in a similar manner, but with a trowelled surface only.

Walls g

Art. 289. The remainder of all walls of rooms, including day-room, itch ward, lunatic wards, staircases, passages, corridors, &c., to be rendered, floated, and set. Those in the hospital buildings are to be prepared for distempering; also all walls of passages and staircases in front building, except upper floor.

The dwelling rooms in front building to be prepared for papering. The walls of orderlies' rooms and passages in front building to be twice limewashed. When thoroughly dry, the walls of all passages and rooms, not specified to be papered, to be carefully distempered with a light fawn colour.

Ward

Art. 290. The ceilings of all wards, &c., to be lathed and plastered as before described, the covings in the large ward on the ground floor to be neatly executed of the profile shown, and the external angles over windows to be formed with a bold sweep, as indicated on the Detail Drawing.

The ceilings of all wards to be first rendered in Portland cement, and finished with a coat of putty and superfine plaster of the best description. As these ceilings are of considerable dimensions, great care must be taken to use the material in such a way as to prevent cracking from contraction, and to ensure a uniform and perfect surface.

Skirtin

Art. 291. The skirtings generally throughout the buildings, where not otherwise described, are to be in Parian cement, 12 inches high, and finished with a large flush bead.

The skirtings to corridors on ground and basement floors to be in Parian cement, 12 inches high, and finished with a flush bead.

The pier bases of the seven hospital staircases to be moulded in cement of the profiles shown.

Stores.

Art. 292. The ceilings of pack store, bedding, and utensil stores, are to be rendered and set, and twice whitened. The walls to be twice limewhited on brick.

Caps, st

Art. 293. The moulded caps, pilasters, neckings, strings, cornice to chapel, architraves, archivolts, beadings, fascias, bands, &c., wherever shown, are to executed in Parian cement.

Cornice

Art. 294. The several officers' sitting rooms in centre building to have plaster cornices of the girt shown on Detail No. 69. The passages on ground and first floor to have wood cornices, as shown. The staircases and lobbies and bed-rooms to have plaster cornices, as shown. The library, officers' library, museum, and board-room to have cornices, as shown on Drawing No. 69.

Enrichi

Art. 295. The several enrichments to staircases, chapel, and board-room, including all centre flowers, consoles, bands, &c., are to be executed in plaster, and twice whitened.

All centre flowers to have a rim round.

Angle s beads.

Art. 296. Run angle and flush beads to all external angles wherever necessary. Open archways to have bold staff-beaded Parian angles, except where shown otherwise in detail.

Render ment.

Art. 297. Render in cement at the back of all external balusters, wherever shown, also the chimney shaft from boiler-house, dust-pits, as well as all warming and ventilating flues, where terra-cotta pipes are not used. Render in cement and sand, in the proportion of two cement to one sand, the walls of rain-water tank, as shown in Detail No. 88, up to the springing line of arches, likewise over arches and the external face below ground line of such walls as form sides of cellars, &c.

Sundrie

Art 298. To execute all requisite beads, quirks, and arrises, to plaster all the internal reveals in the material described for the several portions of the building, to perform all dubbing out, to find all needful additional projections and thicknesses, and to counter-lath the work all over any large timbers, and wherever else requisite.

All the mouldings are to be run with copper moulds.

Moulds.

Art. 299. To provide all moulds, which are to be of the best description, and prepared according to the Drawings herewith furnished or hereafter to be given, and to execute all such modelling as may be necessary for the completion of the several works, as shown on the Drawings or described in the Specification, and to submit all ornamental casts and enrichments for the approval of the Superintending Officer, and to omit no materials nor workmanship which are either necessarily con-

nected with or implied in the proper completion of all the works.

Art. 300. Flat point and limewhite two coats the walls of orderlies' dining-room, corridors, water-closets on basement, orderlies' staircase, all rooms on second floor of front building (except non-commissioned officers' quarters), boiler-room, stairs to boiler-room, lifts, cellars, foul linen chambers, dead-house, as well as all basements under large wards, which are not appropriated for stores or other purposes. Also, wash-house, receiving-room, and laundry, &c., boiler-room and engine-room attached.

Art. 301. Line the walls of two of the provision stores with white porcelain tiles, 9 inches square, laid in cement

Art. 302. The whole of the floors of orderlies' rooms in front building are to be pugged with coarse lime and hair, laid on $\frac{1}{2}$" rough boarding on deal fillets.

Plumber.

Art. 303. The lead and every other material to be of the best quality, and of the best and strongest construction; the sheets of even substance; the cast lead to have the selved edges cut off before laid, all joints strongly soldered, and the lead to be perfectly free from sand cracks; the pipes to be properly fixed with sufficient wall-hooks, and not to weigh less than as follows to the foot run without joints:—$\frac{3}{4}$-inch bore $2\frac{1}{2}$ lbs.; 1-inch bore $3\frac{3}{4}$ lbs.; $1\frac{1}{4}$-inch bore 5 lbs.; $1\frac{1}{2}$-inch bore 7 lbs.; 2 inch bore $9\frac{1}{4}$ lbs.; 3-inch bore 14 lbs.

Art. 304. Lay the gutters, chimney gutters, and valleys of roofs to all buildings throughout with the best milled lead, 6 lbs. to the superficial foot, the valleys to be 24 inches wide, turning up under the slates at least 10 inches, and properly dressed, the lead to lap where required 5 inches, and turned up 6 inches against all brick or stone work and other perpendicular sides, dressed round all angles and to all drips; all gutters not to have less than 2 inches fall in 10 feet.

The gutter in the stone cornice of front building is to have the joints lapped 1 inch and soldered. The joints to be about 5 feet apart.

Art. 305. The flashings to be milled lead, 5 lbs. to the foot superficial; stepped flashings 12 inches wide, and horizontal ditto 6 inches wide to be provided and fixed to all parts of the roofs, flats, &c., where necessary; to all gutters, chimney shafts, ventilating turrets, against all walls where roofs abut, and all other parts requiring them, to be let 2 inches into brickwork and stonework, pointed with cement, and firmly secured with "T" dog-nails, &c., all jointings of flashings are to overlap at the least 3 inches, and turn over upon the lead 4 inches, and upon the slate 7 inches.

Put 5 lb. lead flashing wherever the corridor flat intersects the pavilions, and in those places where the covered way abuts against the buildings.

Art. 306. Cover all hips and ridges with 7 lb. milled lead 21 inches wide, properly fixed with lead tacks; all passings in this part of the work to be not less than 6 inches.

Art. 307. All flats with their gutters and cess-pools are to be laid with 7 lb. lead to the foot superficial, properly dressed over rolls and drips, and to cess-pools, to turn up against all walls, parapets, &c. 6 inches at least, and extend beyond all joints 2 inches.

Art. 308. The cess-pools throughout are to be large, and lined with 7 lb. lead, strongly soldered at the angles, and to have all requisite solder joints and pipe connections out of 8 lb. milled lead, properly dished and soldered to the bottoms of cess-pools, and to have proper elbow joints. All cess-pools to be covered over with waggon-head copper gratings, 16 ozs. to the foot superficial.

Art. 309. Solder into each sink throughout the building a galvanized iron sink trap (Tye and Andrews' patent), with screwed bottom and outlet, of the several sizes detailed.

A 2-inch waste pipe to be properly attached to same, with brass union collar, and to be carried into the nearest soil pipe.

Art. 310. All the ward water-closets throughout are to be fitted up with Jennings' white earthenware pan closets, in one piece. Each closet to be double-trapped, and to have a 1-inch service from the cistern over. 4-inch lead soil pipe, out of 8 lb. lead, to each pan (well secured by proper lead tacks) in chases in brickwork, to convey the soil into the down pipes, which are to be 4 inches diameter on the first floor, and 6 inches on the ground story.

All soil pipes in hospital buildings are to be carried up 6 inches above the roof, and covered with a zinc cap, as shown in detail.

Joints to soil pipes and waste pipes to be made in the most careful manner.

The cistern throughout to have $1\frac{1}{4}$-inch india-rubber tube, ball cock and ball, a 2-inch trumpet-mouthed standing waste, and $1\frac{1}{4}$-inch lead waste pipe, with small syphon trap at bottom.

Provide for each ward lavatory, in the position shown on Drawing No. 27, a small lead trap, let flush into the floor, with moveable cover screwed on, and a 2-inch lead waste pipe from thence to the drain.

The basins to be of white porcelain, 15 inches diameter, and to be provided with gun-metal plug chain and union, similar to sample to be seen at the War Office, Pall-Mall.

Also sink in marble slabs, dishes for soap as per sketch one between every two basins throughout.

Art. 311. The officers' water-closets in centre building, the nurses' water-closets, and the range adjoining the bath room, the orderlies' closets, and those attached to washing establishment, are to be fitted up with Jennings' patent earthenware pan closets, with white ware basins. Each closet to be double trapped, and to have 1-inch service from the cistern over, or from the nearest main in those cases where cisterns are not provided. The basins to have a 4-inch lead pipe to convey the soil into down pipes, which are to be 8 lb. lead, 4 inches diameter on the first floor, and 6 inches on the ground floor. High pressure valves to be provided for such closets as may be required. Water-closets, front building.

Art. 312. The urinals throughout are to have a small D trap, with moveable cover screwed on, and $1\frac{1}{2}$-inch lead waste pipe from thence to the nearest soil pipe. Urinals.

Art. 313. Provide and fix in each block of ward water-closets an enamelled slop sink, Jennings' patent, with 1-inch service from the cistern over. No. 24 of these sinks will be required, a pattern of which may be seen at the War Office, Pall Mall. Slops sinks, etc.

Also provide and let flush into floor in each ward lavatory, a lead sink, 2′ 0″ × 1′ 6″, with two rounded corners, fitted with grating. A 2-inch deal curb, above the floor, lined with 6 lbs. lead and flashing to wall, to be fixed round, as shown in detail.

Art. 314. Provide and fix in Governor's quarters, bath-room, and ward lavatories, No. 31 Rufford and Finch's best white glazed Stourbridge ware baths, 5 feet 3 inches long at top, 2 feet 4 inches wide, and 1 foot 11 inches deep, with all proper holes for service and waste. Also sets of brass bath-cocks of approved pattern, with lever handles and spindles, and engraved brass plate, and make good all connections. Baths and fittings.

The five cast-iron baths in front building are to be McFarlane's patent complete.

Art. 315. Provide and fix to floor of orderlies' lavatory in front building a Jennings' washhand range for sixteen men, with brass water-supply, and fittings, &c. complete. Also a foot range for four men, with brass cold-water fittings complete, McFarlane's patent. Wash-hand ranges.

Art. 316. Provide and fix complete, in bath-house, a copper shower-bath, 2 feet diameter and 12 inches deep, with perforated chamber underneath, 15 inches diameter and 6 inches deep; to have a lever handle, large brass plug and washer, 6 feet of stout brass chain, and ring pull complete; the steam boiler to be provided by Messrs. Jeakes. Shower bath.

Painter and Paperhanger.

All the work to be properly prepared for painting. All woodwork to be twice knotted, the knots covered with silver leaf, and the work of every description to be carefully stopped and pumiced down smooth between each coat. All the lead and oils to be of the best quality. The varnish to be the best copal.

Art. 319. Paint four oils, in linseed oil and white lead, all the external and internal wood, iron, cement (except the Parian cement on walls) and other works usually painted, and finish the same in stone colour, or any other approved plain tint as may be directed, as dark oak, purple, brown, red, white, green, fawn, or drab. All external doors are to be finished bronze-green and twice varnished. Paint four oils.

Art. 320. All internal doors, except one side of chapel doors, and where oak is specified, are to be grained oak and twice varnished. Chapel doors, internally, to be finished in two plain tints, and flatted to correspond with roof stains. Wainscot doors to wards and wainscot sashes or frames to wards, to be twice varnished. Grain and varnish.

Art. 321. Gallery front to chapel and chapel seating to be finished with a light stain, and to be twice varnished. Roof of chapel and dado to be finished with two stains, and twice varnished; the boarding and deal mouldings to be a very pale tint, the casings to be a shade darker. Twice varnish wainscot handrails throughout the buildings. Stain and varnish.

Art. 322. All iron-work exposed to view, internally and externally, such as iron railings, balusters, panels, columns, girders, &c., to be finished bronze-green, two coats being laid on all iron-work, visible or not, after it has been accepted. Bronze green.

Art. 323. The external eaves gutters to be painted four coats in oil, stone colour, to correspond with the stone-work of the buildings. Eaves gutters.

Art. 324. Paint all the iron chimney-pieces, except where Berlin black is used, four coats in oil, as may be directed, the first coat being in red lead. Chimney-pieces.

Art. 325. The standards to altar to be four coats and partly gilt. Altar railing.

Art. 326. Efficient artists to be employed for the above, and for the wainscot work, and everything appertaining to the painting. The tints in all cases to be approved by the Superintending Officer. Efficient artists.

Art. 327. Pumice, size, and prepare such walls as are to be papered. Officers' sitting rooms, as well as all offices in front building, are to have paper, value 2*s.* 6*d.* per piece, P.C.; quarters in wash-house 1*s.* 6*d.* per piece, P.C.; nurses' rooms Paper hanging.

and bedrooms in the front building 1*s.* per piece, P.C. The Contractor is to furnish a variety of patterns of papers for this purpose, of good quality and design, and to submit the same to the Superintending Officer for selection and approval.

Glazier.

The glass to be the best of their respective kinds, free from all defects, to be accurately cut to fit the rebates, carefully bedded, puttied and back puttied, and bradded, and perform all necessary cuttings.

All fanlights over doors, and all doors shown or specified to have glass panels, are to be fitted with the best polished plate, ¼-inch thick. Glazed panels to be bedded in wash leather.

Crown glass. Art. 328. Glaze the whole of the windows of the front building, and all windows in hospital buildings, except ward windows, with the best seconds crown glass, in squares under 3 feet superficial. Squares containing from 3 and under 6 feet superficial to be glazed with 16-oz. sheet glass. All larger sizes to be 21-oz. sheet.

Chapel windows. Art. 329. The windows of chapel to be glazed with Hartley's ⅛th fine rolled plate glass. The border to be ruby coloured sheet, as shown on Drawing.

Plate glass. Art. 330. The ward windows throughout to be glazed with the best polished plate, ¼-inch thick, fixed with brass countersunk screws and collars, as shown on Detail No. 55.

Rough plate. Art. 331. Glaze with Hartley's patent rough plate glass of thicknesses figured on the drawings, the roof of covered way, windows of wash-house, boiler-room, engine-room, and ventilators in washing establishment, also doors to W. C. lobbies in front building, and all skylights and rooflights throughout.

Perforated panes. Art. 332. Provide six perforated panes to be fixed in windows of passage of basement in front building, as may be directed.

Bell-hanger.

Art. 333. Provide in front building, as may be directed, No. 4 pulls, with cranks, wires, &c., complete with concealed tubes, and with good toned bell gongs, to ring from one pair floor to basement. Bells.

Also two similar pulls from Governor's quarters to his servant's room.

The several pavilions are to be provided with bell gongs, so arranged, with all necessary handles and pulls, that each attendant, in both upper and lower wards, shall be able to communicate with the bell-room in basement, and learn by a return signal that they have been heard and will be attended to. The bell-room is to be fitted with a bell board, on which sufficient gongs and carriages are to be fixed to enable the bellman readily to ascertain in which pavilion he is required, and on which floor. A detail showing the arrangement proposed will be furnished. All bells, gongs, cranks, &c. to be of the best description, and the wires in exposed situations, as basement archway, to be cased in woodwork. Pulls to be sliding, direct, well made, and solid.

Zinc-worker.

Art. 334. Provide and fix on roof, as terminations to air flues and soil pipes, No. 28 stout zinc ventilators, 6 inches diameter, and with conical zinc caps, in accordance with the Drawing No. 22. Similar ventilators, 8 inches diameter, 18 inches long. Ventilat

Art. 335. Provide and fix where necessary, with all requisite heads, elbows, and connections, sufficient quantity of 6-inch stout zinc tubing, for connecting earthenware soil pipes, &c., with zinc ventilators as above. Tubing.

Also all necessary tubing, as shown on Drawing, for carrying off the heated air from the drying-room of wash-house, making good with cement the connections to tile arch.

Art. 336. Provide and fill in shutters of meat and dairy store with wire gauze, as shown on drawing No. 43. The gauze to be valued at 6*d.* per foot, P.C. Wire gau

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Warming.

Boilers. 1. Supply and fix, where shown, in the boiler house, two wrought-iron cylindrical boilers, 17 feet long, 4 feet diameter, with flue through the centre, provided with such apparatus as may be required. The furnaces are to be provided with a self-acting apparatus, for the admission of air at the bridge and through the fire door, for the prevention of dense smoke, with all necessary dampers and balance gear, and soot and sweep doors. The boilers are to be connected with 10-inch connecting pieces, fitted with 10-inch seat valves, so as to effectually cut off the connections in case of repairs to either boiler, and so arranged that one or both boilers may be used for the entire work. The connections between the boilers to be fitted with expansion joints. The 10-inch main flow and return pipe to be carried on from the boilers to the pipe chamber in the corridor, and fitted with two 6-inch outlet pieces each. Each outlet piece to be fitted with a 6-inch regulating valve, fitted with spindle brought through floor, and provided with key.

Circulating pipes. 2. Carry on from the 10-inch mains a circulation in 5-inch strong cast-iron pipes, the entire length of corridor, within the chamber formed under the basement floor. These pipes to be carried on iron bearers, fitted with rollers, making the roller for each pipe to work separately. Each of the pipes to be fitted with four expansion joints, properly arranged as to distance. The mains to be fitted with 4 outlet pieces for the various coils, as hereafter described, and all the joints to be made with iron cement and left sound. Each outlet will be fitted with regulating valves for effectually shutting off the same in case of repair.

Air ducts to be formed where shown, to deliver the warm air into the corridor, each to be fitted with a regulating valve fitted to grating at the delivery openings, and provided with iron gratings of an approved pattern for the fresh air ducts.

Coils of pipe. 3. Fix in the eleven ends of pavilions, where shown, coils of 4-inch cast-iron pipes, of sufficient power to warm the lavatories and water-closets. These coils are to be placed vertically, and to be enclosed in a brick chamber, with slate cover over one-half of coil, and are to communicate with the lavatories and water-closets by air-ducts, as shown. Each of these ducts is to have a regulating valve fitted with iron grating of approved pattern, as for corridor. Each coil is to be connected with the main circulating pipe by a 2-inch flow and return pipe, carried on hanging brackets, and fitted with rollers, as before described. Each flow and return pipe to be fitted with an expansion joint, and all necessary connecting pieces to mains.

Felt. 4. All the main pipes are to be covered with three thicknesses of stout hair felt, except where protected by brickwork. Each coil to have a separate regulating valve and air pipe, and all the joints to be made perfect in iron cement.

Flow and return. 5. Lay on from the boilers to the chapel a 2-inch flow and return pipe, to work from either boiler, with valves, &c., as before described, and fix round walls of chapel two tiers of 4-inch pipe, as shown, with all necessary air pipes, and valves for shutting off, and bends and elbows for carrying the same under all doors and openings.

The hospital library on the ground floor to be warmed by means of a similar 4-inch circulation round the walls, as shown, with provision for regulating the same, as before described, supplied with a 2-inch pipe from the main.

6. Fix in each corridor on ground and first floor, cased as shown on Drawing No. 76, twenty coils, in the position shown on plans. The coils to be 2-inch cast-iron spigot pipes, with syphon connections to the 6-inch mains below the basement, and to have 1¼-inch flow and return pipes in patent wrought tubing. Each coil to be fitted with regulating valve and air pipe, and to be cased as shown. Coils in c

The radiating surface of each coil to be calculated at feet superficial.

7. Fix in each of the six-ward staircases a vertical coil, as shown on Detail Drawing No. 76, with ornamental base and cap. These castings to be clean and sharp, and to be submitted for approval prior to being fixed. Each of these coils to be provided with proper means of regulation, and to be connected with the 6-inch mains, as described for the corridor. Do. in sta

Two similar coils, with all necessary connections, to be provided for central staircase.

8. Supply and fix where directed an air expansion cistern of sufficient size to hold one-tenth of the entre contents of the pipes and boilers, to be fitted with 3-inch washer and waste, and overflow with 3-inch waste carried into drain. Lay on the water to the same from the cold-water service with 1¼-inch patent iron pipe and 1¼-inch ball-valve. Each boiler is to have a separate supply from cistern, and fitted with 1¼-inch stop-cock, to admit of either boiler being worked separately. Expansion cistern.

9. Supply and fix in basement beneath nurses' dormitories a small apparatus sufficient for warming by circulation the nurses' berths; and lay round walls, as shown, two tiers of 2-inch pipe, with all necessary air pipes and valves for shutting off the same. Nurses' be

9A. Provide and fix in boiler-house a small boiler complete, for supply of steam, &c. to vapour-bath. Vapour bat

The pipes in connection with this service to be coloured Yellow.

Hot-water Service.

10. Supply and fix in the boiler-house, where shown, two cylindrical boilers, 17 feet long and 4 feet diameter, with flues through the same. Each of these boilers to be supplied with a set of furnace work with soot doors, dampers, tie-rods, and balance gear for dampers, and all necessary apparatus complete, as before described. Boilers.

11. Take from the two boilers a circulation in 10-inch main communicating with 6-inch flange-pipe in two parts the entire length of the building. Each boiler is to be connected with two flow and two return pipes, each leading to a 10-inch main, fitted with branch outlets for the 6-inch circulating pipes, and with regulating valves so arranged that either one or both boilers may be used. The pipes are to be carried on rollers fitted into cast- Circulation.

iron frames prepared for fixing on brick foundations, with the necessary holding-down-bolts and nuts, the ends of these pipes to be fitted with syphon-boxes having expansive joints; also, to have eight other expansive joints in the entire length of the 6 inch flow and return pipes. All the joints to be flange joints, and soundly made with mill-board and red cement, with all the necessary bolts and nuts for the same; the mill-board to be soaked in oil before being used.

12. Provide in these 6-inch circulating pipes No. 30 1½-inch outlets properly prepared for branch circulation.

13. Lay on from the 6-inch mains a counter-circulation, in 1½-inch patent wrought tubing, through each of the lavatories at ends of the wards; through lavatories in lunatic wards; through sculleries in itch and operating wards; to the seven baths in the bath-room on the ground floor; to the five baths and the four basins on the ground, first, and second floors of front building, with counter circulation to the three sinks in the basement and first floor. Proper provision is to be made in these branch circulations for expansion and contraction.

14. The whole of the 6-inch and the 1½-inch pipes to be covered with three thicknesses of hair felt, each thickness being made secure.

15. The 1½-inch pipes to be carried along the pavilions on hanging brackets, and with proper holding stays for the vertical pipes in chases in the wall.

16. Lay on from these circulating mains hot-water to the various places, as follows:—

To the bath in itch-ward, with 1-inch patent wrought pipe, including all bends and connections, and outlet pieces on main:

To the two basins in itch-ward; to the sink in dissecting-room; to the seven sinks in non-commissioned officers' quarters; to the sink in dispensary; to the sink in hospital scullery; also, to the sink in front building, and to one draw-off for pails; with ¾-inch patent tubing, and ¾-inch gun-metal bib-valves, including all bends, ⊤ pieces, and connections, and with outlet pieces on main:

To the bath in lunatic wards; to the ten baths at ends of wards; and to the seven baths and shower bath in bath-room, with 1-inch patent wrought pipe, including all bends and connections, and out-pieces on main:

To the two basins in lunatic wards; to the thirty-three basins in lavatories at ends of wards; to one basin in operating theatre; to the ten sinks in ward sculleries; to the ten draw-offs in ward lavatories for filling portable baths; to the one sink in operating ward; and to the four basins in lavatories (front building), with ¾-inch patent wrought tubing, and ¾-inch gun-metalled bib-cocks, including all bends, connections, &c.:

To the eleven baths at ends of wards, and one bath in front building, as before; to the eleven sinks in ward sculleries; to thirty-three basins at ends of wards; to two sinks and two draw-offs for pails in front building; and to eleven draw-offs in ward lavatories for filling portable baths, as before.

Each of the 1½-inch circulating mains is to have two 1½-inch gun-metal stop-cocks, fixed near the junction with the 6-inch main, so arranged that any section may be shut off for repairs or otherwise, without stopping the other parts.

17. Carry a counter-circulation from the 6-inch main to a coil in 1½-inch patent wrought tube, to be fixed in each of the ward sculleries (No. 21), each coil to be provided with means of regulation, and fitted with all necessary expansion joints and air-pipes.

The pipes in connection with this service to be colored Red.

Cold-water Service.

18. Lay along the outside of the building, as shown by red lines on the plan of water service, two 4-inch strong cast-iron pipes, with ends fitted with 4-inch valve, prepared for attaching to large main from reservoir. These mains to be provided with 2-inch outlet pieces, for vertical mains, as follows:—

Two for front buildings; eleven for water-closets at ends of wards. Carry up the vertical mains in 2-inch strong cast pipe, in the chases provided, up to the lavatories and water-closets on the first and second floors, with 2-inch outlet pieces for the ground floor service. This main to be provided with a 2-inch valve, for the purpose of shutting off for repairs.

Lay down through the centre of the building, as shown by a red line, a 4-inch main, fitted with a 4-inch valve and prepared for large main, as above. This main is to be provided with 17 2-inch outlets, as follows:—1 for lavatory and water closet in lunatic wards, ground floor; 11 for ward sculleries; 1 for dispensary; 1 for operating ward; 2 for bath-room; and 1 for kitchen.

19. Carry up from these outlets 2-inch cast-iron service pipes to the lavatory in lunatic wards, with proper outlets prepared for connecting the branch services. Similar service pipes to the ward sculleries on ground and first floors, with proper outlets for branch services. Also to operating ward, offensive ward, bath-room, and kitchen. Each of these seventeen mains to be fitted with a 2-inch valve as before, and to be carried up, when necessary, to supply cisterns.

20. Lay on from the nearest cistern to the bath in itch ward, with 1-inch patent wrought tubing, with all necessary bends, connections, and ⊤ pieces:—To the urinal with ½-inch similar tubing; to the two basins with ¾-inch pipe and ¾-inch bib-valves, including all bends, connections, and ⊤ pieces; to the sink with ¾-inch tubing and ¾-inch gun metal bib-cock, including all connections and bends; to the dissecting-room sink, and one draw-off for pails, with 1-inch pipe and ¾-inch gun-metal bib-cock; to the sink in basement of front building with ¾-inch tubing and gun-metal bib cock; to the seven sinks in non-commissioned officers' quarters, as shown, with ¾-inch tubing and ¾-inch gun-metal bib-cocks; to the sink in dispensary and in hospital kitchen with 1-inch patent pipe and gun-metal bib-cock; to the urinal in front building with ½-inch tubing.

To the five sinks in officers' kitchens and to the sink and copper in hospital scullery with 1-inch patent pipe; to the cooking apparatus in hospital kitchen with 1¼-inch pipe, and to the five supply cisterns to ranges in officers' kitchens with ½-inch tubing, and ¾-inch gun-metal ball valves and balls.

Lay on from the nearest cistern, with 1¼-inch patent wrought tubing, with all necessary bends, connections, and ⊤ pieces, to the bath in separate wards; to the ten baths at ends of wards, and two 2-inch pipes for the rising mains to the seven baths in bath-room.

Lay on from the same cisterns, with ¾-inch wrought tubing and ¾-inch bib-valves, including all bends, connections, and ⊤ pieces, to the thirty-three basins at ends of wards; to the ten sinks in ward sculleries and operating ward, and to the basin in operating theatre; to the sink in ditto; to the supply cistern of range in orderly medical officer's kitchen; to the sink in ditto; to the four basins in lavatories, front building, and two draw-offs for pails.

Lay on from the same cisterns, with ¾-inch patent wrought tubing, to the ten urinals at ends of wards, and also to the ten bath sinks at ends of wards.

Lay on from the nearest cisterns, with 1-inch patent pipe, with all necessary bends, connections, and ⊤ pieces, to the eleven baths at ends of wards; and to one bath for nurses in front building, and to governor's bath.

Lay on from the same cisterns, with ¾-inch wrought tubing, including all necessary bends, connections, and ⊤ pieces, and ½-inch bib-valves, as before; to the thirty-three basins at ends of wards; to the basin in offensive ward; to the eleven sinks in ward sculleries; to the two sinks and two draw-offs for pails in front building, and to the range in nurses' day-room.

Lay on from the same cisterns, with ¾-inch patent wrought tubing, to the eleven urinals at ends of wards and to the eleven bath sinks at ends of wards.

Lay on from nearest cisterns, as before, with 1-inch patent pipe, to the four baths attached to orderlies' quarters. Also, with ¾-inch patent wrought tubing, and ½-inch bib-cocks, to the sixteen basins in orderlies' lavatory, to the two sinks in non-commissioned officers' quarters, front building, and to the sink and range in kitchen attached to chaplain's quarters. Also, with ¾-inch patent tubing, to the two urinals in front building.

Note.—All the mains within the building to be cased in dry-hair felt.

All the cocks to be of gun-metal, full water-way, with lever handles and screwed bottoms.

The pipes in connection with this service to be coloured Blue.

Fire-main Service.

21. Fix near the end of each ward in ground floor corridor, and in the floor above, a 2-inch fire-cock, fitted with brigade screw and cap for hose, the same to be connected to the 2-inch rising main in ward sculleries, with proper connecting pipes. Each cock to be provided with a lever and cap, with chain and staple for fixing the same. A fire-cock of similar description to be fixed in each lavatory at end of ward, with the necessary connection to the main, with chain and staple as before.

Six fire-cocks in front building connected to the 2-inch mains, with lever, chain, and staple, as above.

Fourteen stand-pipes to be fixed outside the buildings where directed, connected with the 4-inch mains, and prepared for brigade hose.

Fittings and Machinery for Wash-house and Laundry.

22. Provide and fix in the position shown on Drawing No. 106, one wrought-iron cylindrical boiler, 12 feet long, 3 feet 6 inches diameter, with flue through the same, and provided with approved float and feed-gear, water-gauges, &c., as described for the other boilers. Boiler.

23. Provide and fix in engine room a vertical steam engine of 4-horse power, with fly-wheel, governor, and expansion gear, connected with steam boiler by 2-inch wrought steam pipe, and so arranged that the waste steam may be blown through the hot water cistern, or through a separate waste steam pipe. Engine.

24. Provide lines of 2½-inch circular wrought shafting, with clutches and connections, on cast brackets, with gun-metal plummer blocks and proper gear for connecting the same with engine in the wash-house and laundry, for driving the two washing machines, the wringing machine, the two box mangles, and the fan of desiccating apparatus. Pulleys for the same are to be not less than 6 inches wide, and of such dimensions that a proper speed may be maintained in the several machines they are employed to drive. Drip-cups, properly hung, to be provided to each of the bearings. Shafting

18. 25. Provide and fix, as shown No. 16 washing troughs, formed with 2-inch clean white pine bottoms and 1¾-inch backs; fronts and sides as detailed. The troughs to be bolted together with ½-inch copper bolts, one to each division, and screwed with copper screws, and to be supported by cast-iron standard, as shown. These standards are to be provided with a cast-iron waste trough-pipe, connected in the centre with a 4-inch waste pipe, properly trapped, and passing into the drain. Each trough is to be provided with a gun-metal waste plug and chain, as shown. Hot and cold water is to be laid on to each trough by means of ¾-inch gun-metal full-way cocks and levers, connected by T pieces, with 1½-inch iron mains, and steam pipes to each alternate trough.

All the pipes for supplying troughs are to be cased as shown.

Steaming tubs. 26. Provide and fix three oak steaming tubs, with perforated bottoms, in accordance with the Detail Drawing, with all necessary supply, steam, and waste fittings, with gun-metal cocks and valves.

Cisterns. 27. Provide and fix over drying-closet, as shown, a galvanized wrought-iron cistern, No. 10 B.W. gauge, of the figured dimensions, with steam-worm, consisting of 150 feet of 1½ galvanized iron pipe, connected with steam-main by a gun-metal cock, and provided with condensed cock and pipe. This cistern is to have a galvanized wrought-iron cover, flanged with bolts and nuts, and connected with a 1½-inch waste steam-pipe, carried where directed. The connection with hot-water supply pipes is to be made with 1½-inch pipe with gun-metal stop-cocks.

Drying clos 28. Provide and fix No. 16 horses 15 inches wide and of the figured heights and lengths. Each horse to have six galvanized iron rails running on turned and bored rollers and wrought guide-rails, front and back plate of wrought iron, the front covered with 1½-inch deal, and an iron japanned handle bolted thereto. Each closet is to be heated by the hot-air from the desiccating apparatus, which will be supplied and delivered by the Department, and fixed by the Contractor for this portion of the work as may be directed, with all necessary brickwork, fire-bricks, fire-clay, &c. The back to be afterwards rendered with cement, as shown on Drawing.

Ironing sto 29. An ironing stove, with top plate 3 feet by 2 feet 6 inches, to be provided and fixed where directed, and so arranged that the waste heat from the desiccating apparatus can be made available.

Washing machines. 30. Two washing-machines (Williamson's patent), one to have a trough 6 feet long, the other 3 feet 6 inches long, to be provided and fixed in the position shown.

One wringing machine of approved make, and one rinser with strainer attached, to be fixed in the wash-house where directed.

Two patent chain-mangles with mahogany beds and fast and loose pulleys, and with all necessary starting gear, and double straps for driving.

Specification for the Reservoirs and other Works for the Water Supply of the Herbert Hospital.

The contract includes the lime water reservoir, service reservoirs, depositing reservoirs, lime house, store room or workshop, whiting pits, road, boundary walls, entrance gates, and other works referred to in this specification and shewn on the Drawings marked Herbert Hospital Water Supply, Drawings Nos. 23, 24, 25, 26, 27, 28, 29, 30, and shall be executed of the size and in accordance with the particulars shewn on such drawings, the figured dimensions wherever given being taken in preference to the scale should any difference exist.

Site.

The reservoirs, road, boundary walls, &c. are intended to be constructed in a conveniently accessible situation in a certain field on the western side of Shooter's Hill in the county of Kent adjoining an accommodation road leading from the Shooter's Hill turnpike road in a southerly direction towards Severn Droog Castle, and distant about one third of a mile in an easterly direction from the Herbert Hospital.

Excavator.

The grass sod shall be carefully pared off as thin as possible from the surface of the ground to be excavated or embanked upon, and laid by in a heap to rot.

The soil or black vegetable mould under the grass sod shall be taken off the surface of the ground aforesaid to the depth of 8 inches at least, and be carefully removed and put on one side, to be afterwards used with the rotted grass sod and for resoiling the top or upper surface of the ground tinted green on plan No. 1.

The gorse or furze, &c. now growing on the ground tinted green as aforesaid shall be carefully taken up, roots and all, and be dried and burned.

The ground shall be excavated to the depths shewn upon the drawings for such parts of the work as are below the surface, and as near to the size of the brickwork and concrete as possible.

Along the outside of the concrete, beneath the service reservoirs, shall be laid two rows of earthenware agricultural drain pipes, side by side, two inches internal diameter, properly laid in straw with a fall nowhere less than 1 inch in 10 feet, one row commencing with the aforesaid fall from the centre of the east side of the service reservoir to be carried around the half of the east side, the north side, and the half of the west side. The drain pipes shall also be carried with the aforesaid fall along the other half of the east side, the south side, and the other half of the west side, and shall then meet the before-described pipes, and be continued alongside the bottom of the trench excavated for the main drain for such distance as may be ordered, and joining the drain terminating at the culvert under the Eltham road.

The top of the drain pipes shall be covered with clean gravel stones for their own length (the stones being not more than 1½ inches nor less than ¾ inch diameter) for 6 inches in depth. Two perpendicular gravel drains, 12 inches square, composed of stones as before described, shall be carried up from the before-mentioned gravel drains immediately outside and adjoining the brickwork on each of the four sides of the depositing reservoir, distant not more than 24 feet apart to within 3 feet of the intended surface of the ground.

Two rows of similar drain pipes to be laid and covered in a similar manner with stones shall be carried all along the outside and close to the bottom footings of the east boundary wall on its eastern side, having a fall from south to north similar to the footings, the same to be returned round the northern boundary wall, and be let into and made good to the 9-inch stoneware drain near to north-east corner of building.

Similar drain pipes and drains shall be carried along the outside of the footings of the east end of the southern boundary wall in a westerly direction for a distance of 51 feet, when the drains shall terminate in a bed of clean gravel stones or shingle 30 inches diameter, and carried from the drain pipes upwards to the surface of the ground.

Perpendicular gravel drains, 9 inches square, composed of clean gravel or shingle of the size before described, shall be carried up outside the boundary walls from a junction with the before-named gravel drains near the footings to within 3 feet of the surface of the ground, and distant about 20 feet apart, one being placed between every other buttress.

Any vacancies between the outside of the brickwork and the ground as excavated, besides those occupied by the before-mentioned drains, to be gradually filled in, in layers 9 inches in thickness and the material taken out in excavation, each layer being watered and well rammed or punned as the work proceeds.

The surplus earth to be carted away to any distance not exceeding 200 yards, and disposed of as directed.

The slopes and surface of the banks and cuttings both outside and inside the boundary walls to be as shown by the Drawings.

The material forming the embankments to be raised in regular concave layers not more than 9 inches in thickness, each layer to be completed and properly regulated to the full breadth before another layer is commenced. The material to be carefully broken, spread, and rammed or punned so as to leave the embankment solid in every part, and especially against the brickwork.

The accommodation road leading from the existing road to the entrance gates, and the road from the entrance gates along the whole front of the building, to be formed by excavating the ground for the whole width of the road, as shown, for 13 inches in depth below the intended surface, and filling up the first 9 inches of the excavation with broken flint stones not more than 2 inches or less than 1½ inches diameter, and by filling up the remaining 4 inches in depth with binding gravel.

The surface of the ground bounded by the boundary walls to the east of the road before the front of the buildings shall be covered with a layer 3 inches in thickness of broken flint stones, in size not more than 1½ inches diameter; the surface of the stones shall then be covered with a layer 3 inches in thickness of the best binding gravel. The surface to be carefully rolled to an even and true plane, with falls as shown on the Drawings.

The surface of the ground around the buildings tinted green on plan, after being properly trimmed to the form shewn on the Drawings, shall have evenly spread over it the black mould, soil, or vegetable earth taken from beneath the grass sod, together with the sod broken into very small pieces. The ground shall then be very carefully forked up at least 12 inches in depth, and have six loads of well-rotted stable manure dug into it, when the surface shall be raked and rolled, and be sown in a proper manner with fine grass seed of the best description.

Bricklayer.

Concrete.

The foundations, bottoms of the reservoirs, roofs, &c. where so shewn on the Drawing, shall be made of concrete composed of and in the proportion of 3 bushels of the best Portland cement to 9 bushels of clean, sharp river sand, and 12 bushels of perfectly clean gravel stones, no stone of which shall be so large as

not pass in any direction through a ring 1½ inches diameter. The gravel stones shall be carefully cleaned and washed (if required) so as to leave the stones as clean as the shingle found near the sea on the seashore. The sand shall be clean, sharp river sand of the best description, and none other shall be allowed to be used.

The Portland cement and sand shall be well incorporated and mixed, and formed into a stiff mortar, immediately before it is to be used for making the concrete.

The mortar shall then be put into a pug mill worked by a horse, and therein well and thoroughly mixed with an equal quantity, bulk for bulk, of the gravel before mentioned, until a thorough admixture of all the parts be effected, and the mixture is brought to a tough consistency, when it is to be immediately taken to the place where it is required to be used, and used in such a manner as to require as little levelling as possible.

The concrete forming the foundations, the bottom of the reservoirs, and the roof shall be formed in even layers all over not more than 4 inches thick, each layer being well rammed or punned together, and the top surface shall be brought to a firm level and smooth surface, with the exact falls indicated upon the Drawings.

The concrete forming the roofs and the bottoms of the depositing reservoirs shall be supported while the roofs are being formed, and until the concrete is sufficiently set, with deal boards about 1 inch thick, laid close together with the wrought-iron girders, and properly supported below the upper surface of the boards which the concrete will rest upon, being first washed over with loam and water about the consistency of treacle, and allowed to dry on the boards, in order to prevent the concrete adhering to the boards.

The mortar used in all the walls, &c. of the reservoirs and foundations as high as the top water in the depositing reservoirs and lime water reservoir shewn on the Drawings, shall be composed of the best Portland cement, and clean, sharp river sand, in the proportion of one of cement to two of sand, well incorporated and mixed together with water into a stiff consistency as near to the place where it is to be used as possible, when it is to be immediately used. No cement mortar that has once commenced to set shall be chaffed up a second time or shall be used.

The mortar used in all the other portions of the work except the boundary walls shall be made as before described, but the proportion of cement used shall be as one of cement to three of clean, sharp river sand.

The mortar used in the boundary walls and the concrete for foundations of boundary walls to be composed in the proportion of 3 bushels of fresh burnt Halling grey stone lime to 9 bushels of clean, sharp river sand. The lime and sand to be well incorporated and mixed into a stiff mortar, not less than 16 hours nor more than 24 hours before it is used. Immediately before the mortar is used, half a gallon of Portland cement to every cube foot of mortar shall be well mixed with it for such portions of the boundary walls as are retaining walls, and also for the gate piers.

No mortar that has become hard before it is required for use, after the Portland cement has been mixed with it, shall be used.

The walls and brickwork in every part shall be of the dimensions shewn to the scale or figured on the Drawings, and those portions below the surface of the ground shall be built with hard, sound, well and thoroughly burnt grey stock bricks. No place bricks or grizzles will be allowed. The whole of the walls above the ground line level shall be built with Gault kiln bricks, the exterior faces of building being built with the best quality of compressed Gault kiln bricks of one uniform colour. The other parts of the walls to be built with "wire-cut" Gault kiln bricks; and the exterior faces of the boundary walls and the inside of the buildings (where not rendered) to be built with bricks of one uniform colour to match the exterior faces of the buildings. The bricks used inside and outside must be all of one uniform size and shape.

The whole of the brickwork shall be laid in English bond. No joint of mortar shall exceed ⅜ inch in thickness, and no difference of workmanship will be allowed in the inside and outside work.

The works to be carried up uniformly in level all round, and the whole of the joints shall be flushed up as solid as possible with cement mortar, and every course shall be grouted with thin Portland cement mortar as before described.

The inside joints shall be neatly pointed and drawn, except where the surface of the wall or brickwork is intended (as in the inside of the reservoirs) to be afterwards rendered, when the joints shall be left to be raked or cut out for ⅜ of an inch in depth, and so as to form a proper key for the rendering.

The whole of the exterior of brickwork to have the joints neatly struck as the work proceeds.

The cornice to be executed according to Drawing in white Suffolk bricks.

The splay of plinth to be executed in white Suffolk moulded bricks.

All door and window frames, all templated and stone work, to be bedded and pointed in Portland cement mortar as before described, composed of one of cement to two of sand.

The discharging arches over all doors and window openings, where practicable, to be kept to the full thickness of the walls.

All the external arches to be gauged and set in fine cement putty, made of sifted Portland cement, and coloured black.

Cast-iron gratings of approved pattern to be provided, and to be built in where shown, both inside and outside the building, to the openings of ventilating flues, the inside of flues to be rendered as brought up with cement mortar.

Two tiers of hoop iron bond, set in neat Portland cement, to be inserted all round the buildings, where practicable, immediately below the wrought and cast-iron girders, and one tier of hoop iron bond to be set in similar manner, to be inserted all round the building immediately above the wrought and cast-iron girders, and similar wrought iron bonds, built in a similar manner, to be built in such other positions as are shewn on the Drawings. The hoop iron bond to be Tyerman's patent, 2 inches wide and No. 15 wire gauge in thickness.

The pipes where shewn through the wall of the reservoirs or buildings, and the ends of all the cast and wrought-iron girders and machinery, to be set in neat Portland cement.

The coping to boundary wall to be semicircular brick 9 inches wide, set in cement.

The bottoms of the reservoirs (after being rendered as hereinafter described) to be paved with one course of hard burnt sound paving bricks 2 inches thick, laid flat. The bricks shall be bedded full, and flushed with neat Portland cement, so that in lifting a brick from its position in the work no imperfection or vacancies can be discovered, but the impress of the brick shall be found distinct throughout.

The top joint shall be raked or cut out for ⅜ of an inch deep before the cement sets, in order to form a key for the rendering over the bricks.

The floors of the store-room or workshop and coal store are to be laid with hard-burned paving bricks, set on edge in cement mortar, on a layer of concrete 6 inches in thickness resting on a dry and hard bottom previously prepared. The paving to be grouted in and laid with a slight fall towards gratings over sinks.

The floor of lime-house, being first carefully rendered over surface of concrete with Portland cement mortar, to be formed of one course of hard-burned paving bricks, laid flat in cement, with slight falls towards gratings over sinks. The engineer and other trades to be attended on.

The flues of the chimneys as brought up to be neatly rendered in cement mortar, same quality as used for the building, and the caps to be formed in brickwork as per drawing.

The sills of all the windows to be formed as shown of ¾-inch slate, rubbed on the upper surface, and having rounded edges and angles set in cement, and pinned into the walls.

The drains to be formed of the size, and, as shown on plans, with the best glazed stone earthenware well-burnt drain socket pipes, laid to a good fall, well and securely jointed with cement, and forming a perfectly cylindrical and continuous line throughout.

The bed for the pipes to be prepared to uniform inclinations, and made sound with concrete, so that the inverts of the pipes and sockets may bear upon the concrete for the entire length. The sockets to be sunk in the ground so as to secure a firm bearing.

The pipes to be cleaned out as laid, and any cement at the joints, and all obstructions in them, to be removed.

The trenches to be filled up with the most suitable material, taken out in excavation, put in in layers not exceeding 6 inches in thickness, each layer being well watered and well punned.

Plasterer.

The surface of the concrete in the bottom of all the reservoirs before the paving is commenced shall be rendered all over not less than ⅜ of an inch thick with Portland cement ganged to a stiff consistency with half its own bulk of clean, sharp, grit, river sand, the sand having been first washed through a sieve 6 meshes to the inch. The falls or inclinations in the drawings being truly kept.

The inside of all the reservoirs, sides, and bottoms, when the whole buildings and works are completed, and the last thing of all, the joints between the bricks being first raked or cut out for at least ⅜ of an inch in depth, to form a key for the rendering, and also the face of the brickwork having been first thoroughly cleaned and well washed with water, and all extraneous matter removed from the same, shall be rendered solid all over with neat Portland cement at least ⅜ of an inch thick, trowelled perfectly smooth to a true plane or flat surface, with the inclinations shown on the drawings, and well compressed in working, the cement before being used to be well mixed and beaten into a very stiff consistency.

The top of the concrete on the roofs, before the asphalte be laid on, shall be rendered to a true plane with a rough surface, and to such falls as are shown on the drawings, with a mixture of 1 of Portland cement to 2 of sharp river sand, washed through a sieve 6 meshes to the inch.

The inside of the roofs or ceilings of the lower or service reservoirs to be rendered float, and set with Portland cement, and sand mixed in the proportion of one of cement to two of sharp river sand, washed through a sieve six meshes to the inch. The upper ceilings, viz., for the depositing and lime-water reservoirs, workshops, and lime-house, to be rendered and floated as for service reservoir ceilings, and "set" with neat Portland cement. The ceilings of the depositing reservoirs, the lime-water reservoirs, and the passage, to have a plain moulded

cornice of 8 inches girth run all round in same material as that described for the rendering of the ceiling.

Render in Portland cement the whole of the reveals and soffits to the windows and door openings requiring it, having a bead marked on edge of same flush with brickwork, and finish the surface with neat improved Portland cement.

Put to the walls of closet Portland cement skirting 6 inches high, with $\frac{3}{4}$ return, and arris and colour the same.

The whole of the interior of the buildings and reservoirs, excepting the walls above the tops or landings of the lime-water and depositing reservoirs to be whitened out with two coats of blue lias lime and Portland cement mixed in the proportion of 2 of lime to one of cement. A Portland cement skirting 9 inches high, with plain moulding run on top, shall be put round floors of depositing and lime-water reservoirs and the staircase.

Covering for Roof.—Asphalte.

The whole of the upper surface of the concrete composing the roofs, after being regulated as before described to a true plane, and to the falls shown on the drawings, together with the sides of the walls above the roofs to the under portion of the coping, and before the coping is put on, shall be covered in a perfect manner with the best Seyssel asphalte $\frac{5}{8}$ of an inch thick to be done by the Seyssel Asphalte Company.

The cesspools leading to the rain-water pipes to be also lined with asphalte as before described.

The junction with the cast-iron pipes, as shown, shall also be bedded in asphalte, so as to make a water-tight junction with the cesspools.

The asphalte shall be solid in every part without air-holes or bubbles, and be carefully joined at the arrises, with the asphalte carried up the sides of the walls and into the cesspools, so that no water can anywhere get through the asphalte or the junction with the asphalte.

The cesspools, as shown, to be covered with strong cast-iron galvanized gratings, and the top of the asphalte on roofs to be covered the last thing to the height shown on drawings with a layer of well-washed gravel stones, no stone of which shall be too large to pass in any direction through a ring one inch diameter.

Mason.

The paving shown on the tops of the depositing and lime-water reservoirs, &c. shall be the best Yorkshire stone, at least 3 inches thick and 3 feet wide, and in such lengths as will enable the stone at the joints to be supported by the cast-iron brackets as shown on the drawings.

The upper surface and edges shall be fair tooled all over; the paving to be set in Portland cement mortar to the falls shown on the drawings; the joints to be flushed up with neat Portland cement.

The roof of watercloset and urinal to be formed with half-brick arch, set in cement, and covered with concrete, and asphalted as shown in detail.

Small channels, of form of segment of a circle, as shown on the drawing, shall be cut in the paving, to carry off the water to the sinks when paving is washed and cleaned, as shown.

The landings for the passage to be the whole breadth of the passage (4 inches thick), and of suitable widths. The top surface to be fair tooled all over, and set with and joints flushed up with Portland cement.

The bottom of each column in the service, and also the depositing reservoirs, shall be bedded on Yorkshire stone at least 4 inches thick. The base of column to fit quite fair and close, so as to take an even bearing all over.

The Yorkshire stones on which the columns are supported being set in neat Portland cement.

A washer of sheet lead, weighing 6 lbs. to the foot, the whole size of the bottom of columns, being introduced between the iron and the stone where the iron would otherwise bear on the stone.

The coping to be York stone, quarry worked, weathered and throated both sides (average 3″ thick), and set in cement mortar.

Put to all entrances tooled York stone thresholds 8 inches thick, the width of walls, and 18 inches longer than the openings morticed for door frames, and set one inch above floors. All internal thresholds to be 4 inches thick, the width of wall, and 18 inches longer than openings.

Pave watercloset and urinal and covered passage near watercloset with 3-inch York stone, laid on concrete, and grouted and pointed in Portland cement mortar. A semicircular channel to be cut in stone in the urinal, and a perforation for a 5-inch trap, the trap to be provided and approved, and to be connected with the drains.

Put flight of solid York stone steps as shewn, and built in walls inside the passage leading to lime-water reservoir and lime-house.

Put flight of solid York stone steps as shewn to entrance door leading to passage of lime-house, with ends let into brickwork.

The space outside of aforesaid entrance door and the entrance door to workshop or store, &c., as shewn on plans, to be paved, with proper fall, with 3 inches York stone set on 6 inches of concrete, and curbed with tooled York stone 9 × 5, close jointed together. Provide and fix two testing basins, &c. complete, as shewn on drawing No. 25, and composed of black enamelled slate, with wastes and plugs, and waste-water pipes complete.

Provide and fix two tooled York sink stones 24 inches square and 8 inches thick, to be perforated and rebated and channelled for 12 inches iron grating, with trap, and 2 ditto 12 inches square and 6 inches thick with 6″ iron gratings, and traps, in lime-house and workshop.

Put to the urinal $1\frac{1}{2}$ inch rubbed slate slab 3 feet long, to project from wall 8 inches at top and 3 inches at bottom; put $1\frac{1}{4}$ inch returned ends grooved to receive the same, securely fixed together with copper angle rims, and to walls with copper cramps as required. Provide and fix in lime-house where directed a solid slate sink 3′ 0″ × 1′ 6″ and 6″ thick, properly dished, with lead pipe properly trapped into the down pipe from roof. Ditto, ditto, in workshop.

The caps and bases of the piers of gates to be of Portland stone, 9 inches thick, worked as shewn.

The whole of the foregoing masonry to be cleaned down, and left clean and perfect on completion of the works.

Carpenter.

All the timber used to be of the best description of yellow Memel fir, to be well seasoned, free from sap and dry, to contain no large loose or dead knots, shakes, or other imperfections, to be cut square, and to measure the full sizes specified when fixed in the building. The joiners' work to be of the best description of Christiana deals, well seasoned, free from sap and dry, to contain no large loose or dead knots, shakes, or other imperfections.

Provide all necessary temporary supports, struts, and shores, &c. required. Fix all iron work of every description.

Provide good and secure casing for all stone work required to be protected from injury during the execution of the works, and any accident arising from neglect in this respect to be made good.

Put a sufficient number of wood bricks as required for fixing door and window frames and other joiners' work

The window openings in the passage leading to lime-water reservoir, the store room or workshop, and the lime-house and lime-store, and over hot-water boiler, to be fitted with $1\frac{3}{4}$-inch moulded sashes, double hung, with best copper lines, iron weights, and brass axle pullies suitable for the copper lines, prepared deal cased frames, the frames to be semicircular, the windows being made square to the inside, to allow lower sash being thrown completely up, to be fitted with best sash fastenings, brass furniture, put small band moulding round same where required.

Brass pullies, hooks, and strong cords to the sashes of windows in east end of passage only, for opening and closing same.

The inner doors to be 2 inches deal square and moulded framed 4 panels (2 below and 2 above), the upper panels of the doors between the lime water and depositing reservoirs having only one large panel above for glazing, to be glazed with polished plate glass $\frac{1}{4}$-inch thick, fitted with shifting beads, and screws.

The whole to be hung with good strong $3\frac{1}{2}$ inches wrought butts, to rebated and beaded fir frames $4\frac{1}{2} \times 4$ inches, and rebated and beaded transome, 6 inches mortice locks, spring latch, and bronze furniture, and architrave moulding round door frames.

The outside door for entrance to passage leading to lime-water reservoir to be deal-framed, and braced with styles and rails $2\frac{1}{2}$ inches thick, with 1 inch rebated and beaded filling in, backed with 2 horizontal and 2 diagonal braces, to be hung with best wrought $4\frac{1}{2}$ inch butts of Collinge's make, to rebated and beaded fir frame 5 × $4\frac{1}{2}$ inches.

The outside door to workshop to be deal framed and braced with styles and rails $2\frac{1}{4}$ thick, with 1 inch rebated and beaded filling in, backed with one horizontal and two diagonal braces; to be hung with $4\frac{1}{2}$ inch best wrought iron butts of Collinge's make, to rebated and beaded fir frames $4\frac{1}{2} \times 4\frac{1}{2}$. Fit up the watercloset with $1\frac{1}{2}$ inch deal riser, $1\frac{1}{4}$ inch deal seat with rounded edges, $1\frac{1}{4}$ deal mitre clamped flap hung with 1 pair of 3 inches wrought-iron butts in $1\frac{1}{4}$ inch deal framed and beaded frame; put $\frac{5}{8}$ inch skirting round seat, 5 inches wide, with external corners rounded; cut perforation for seat and handles.

Cistern.

Provide and fix in lime-house a 2″ wrought deal dovetailed cistern, with strong cover to same, to hold 60 gallons of water; and one over watercloset, to hold 40 gallons of water. Put angle fillets, and attend on plumber and other trades.

Entrance Gates.

The entrance gates to be framed of 3″ deal styles and rails, the upper to be curved as shown on drawing, with moulded capping above same, and filled in with 1″ rebated and beaded battens, backed with diagonal and horizontal braces, the gates to be double hung (having meeting styles, rebated and beaded), with a pair of "Collinge's Patent" 4 feet hinges to side pier, 1 strong 5 feet swing iron fastening bar, with iron stays, and a padlock by Chubb provided, also a wrought-iron stay bar and two proper oak stops.

No. 2. 3 feet barrel bolts with iron eyelets fixed on the inside of the gates, and an approved strong iron spring catch on outside.

A small wicket gate corresponding to the adjoining work, framed in the foregoing gate, and hung with a small pair of "Collinge's Patent" hinges, and provided with a small mortice lock of Chubb's make, and bronze furniture as directed.

Glazier.

Fill in the whole of the sashes and openings throughout with polished British plate glass at least $\frac{3}{16}$ of an inch thick, to be puttied, sprigged, and back puttied into the sashes, to be carefully bedded in putty to the openings without sash frames, the walls plugged, and the glass secured by wrought wainscot fillets.

All to be left perfect at the completion of the works.

Plumber.

Provide the lead for footings of iron columns before described and for other trades. Line the cistern with 6 lb. milled lead throughout, soldered at angles, and close copper nailed to all edges.

Provide 40 yards $\frac{5}{8}$" inch lead pipe 7 lbs. per yard run, to lay on water to water tanks or cisterns, with stopcock on same at main.

Provide for fixing same as may be directed, also two $\frac{1}{2}$-inch Lambert's ballcock with copper ball.

Lay on water from cistern to pan of closet with $\frac{3}{4}$ lead pipe weighing 9 lbs. to yard run; lay on water to urinal and $\frac{5}{8}$-inch lead service pipe 7 lbs. to yard run, and $\frac{1}{2}$-inch stopcock.

Provide and lay on 12 yards of $\frac{1}{2}$-inch lead pipe 6 lbs. per yard run, with screw-down brass tap, and fix same in buildings wherever directed.

The watercloset pan is to be fitted with best pan apparatus, blue basin, D traps of 7 lbs. lead, and service boxes securely fixed in lead; cistern to have a strong lead service pipe from cistern to basin as before described.

The apparatus to be procured of Messrs. Warner & Son, 8 Jewin Crescent, and to be of the best quality supplied by them.

Smith.

Provide the iron work described in other trades.

Provide and fix four small cast-iron stoves with iron flue pipes from same, viz., one in each corner on gallery of depositing reservoirs.

Provide and firmly fix as shown the cast-iron down and overflow pipes, according to particulars given in plans, all complete, with cast-iron gratings for cesspools in roof.

Provide No. 4 plain, strong, scrapers, and fix two at entrance to passage leading to lime-water reservoir, one to door leading to store-room or workshop, and one to door of covered passage.

Provide cast-iron air bricks as show.

Provide and fix 3 mortice spring locks of Messrs. Chubb's make, one to the front entrance doors, namely, the front door to passage leading to lime-water reservoir, and the front door to workshop or store-room, and one to door opening on the common; and provide 3 master keys, in addition to the usual keys, that will pass all the locks.

Provide 48 cast-iron standards with locks, and twisted oval chain, and fix same as shown round landings of depositing and service reservoirs.

Painter.

Knot stop and paint 4 times in best hard oil and varnish colour all wood, iron, or other work usually painted, to be finished of such tint or tints as may be directed.

Generally.

The cast-iron girders and columns, the cast-iron brackets to carry the paving round reservoirs, the inlet and outlet pipes to the reservoirs, and the wrought-iron girders to carry the roofs and bottom of depositing reservoirs, and other iron work connected with these parts, together with all the machinery and iron pipes, as shown, will be provided by Her Majesty's Principal Secretary of State for the War Department, delivered at the railway station at Woolwich; but the carting of the same from the railway station to the site of the intended works, and the building in and fixing of the same, in which he will be assisted by the contractors for the iron work when requisite, without charge, to be done by the contractor, and to form part of this contract.

Note.—The quality of the sand used throughout will be required to be the best clean sharp-washed river sand, and where used for cement mortar or rendering to be washed through a sieve 5 meshes to the inch (except where a finer sieve is required to be used), and none other sand will on any account be allowed to be used. The contractor must fully understand that the efficiency and water-tightness of the reservoirs depends upon the work being of the soundest description, and more especially upon the care taken to execute the rendering of the inside of the reservoirs in the soundest and most perfect manner, and that he is responsible for the water tightness of the same.

LONDON:
Printed by George E. Eyre and William Spottiswoode,
Printers to the Queen's most Excellent Majesty.
For Her Majesty's Stationery Office.

HERBERT HOSPITAL WOOLWICH

- BLOCK PLAN SHEWING GROUND -

DRAWING Nº1

Gravel walk

Terrace

Channel Gutter

Covered way

Entrance

Turn Railing

Pathway

Datum and Boundary stone (datum line 249 above Ordnance Datum)

Dover Road

Pathway

to Blackheath

Road to Eltham

Fence

Fence Gate

Gate

Gate

Gate

Gate

Slope

Slope

Slope

Steps

Steps

Covered Way

Covered Way

SEAT

SEAT

SEAT

SEAT

WASHHOUSE

SCALE OF FEET

100

100

400

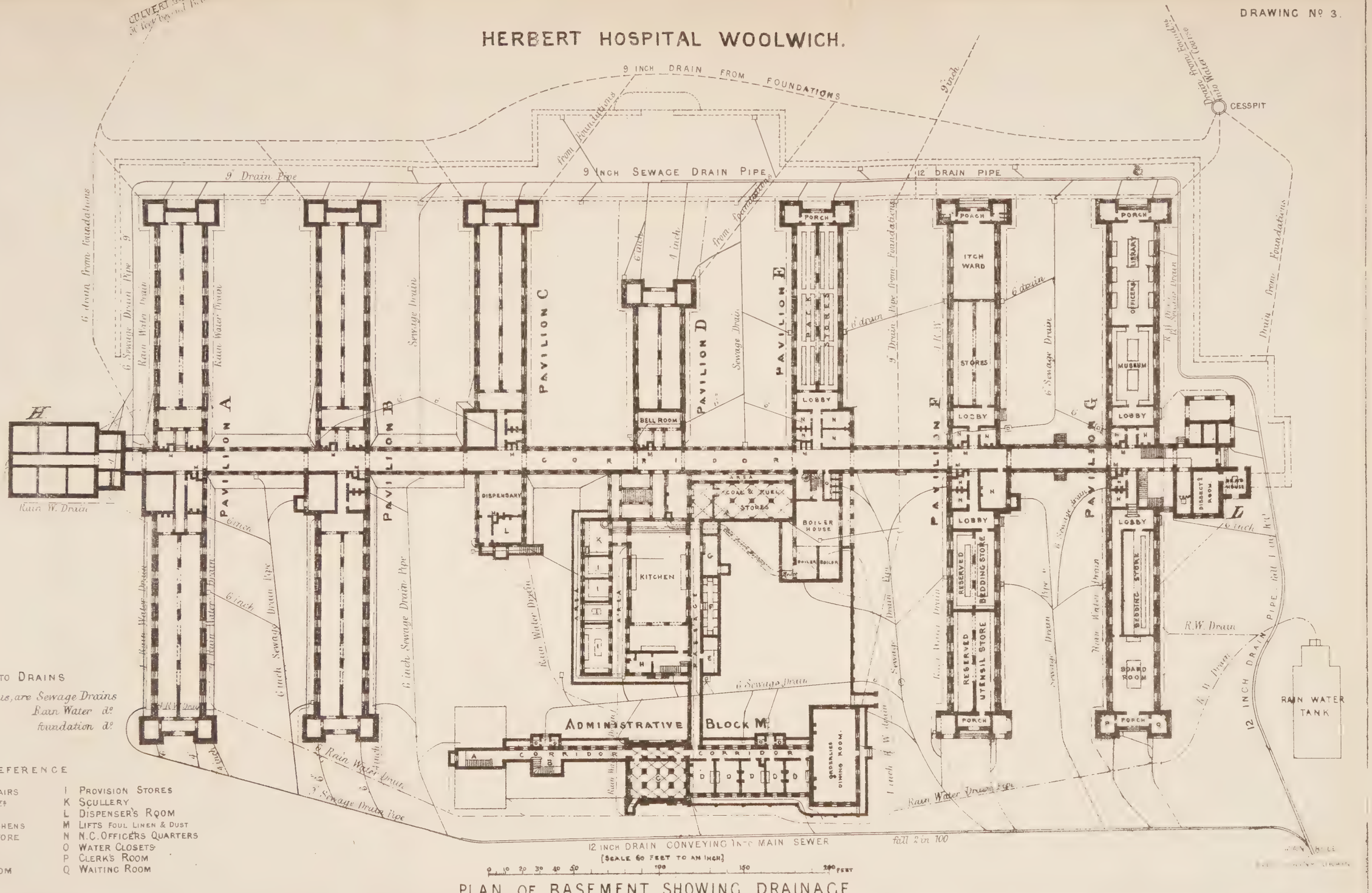
Dav. Son (Lieut.) R.E.

Day & Son Limited Photo-lith.

THE HERBERT HOSPITAL. WOOLWICH.

DRAWING Nº 3.

HERBERT HOSPITAL WOOLWICH.



REFERENCE TO DRAINS

——— marked thus, are Sewage Drains
-·-·- " " Rain Water dº
— — — " " foundation dº

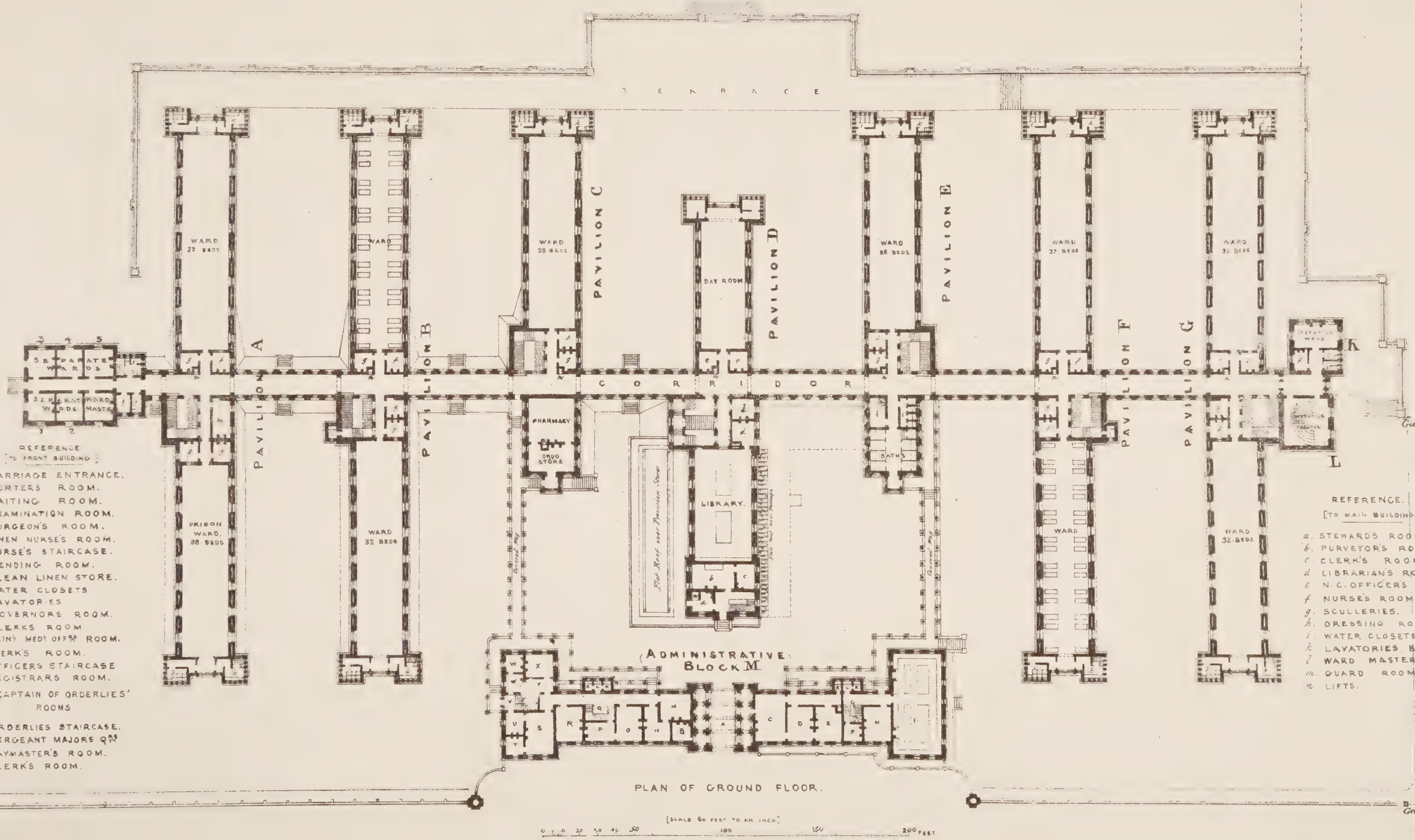
REFERENCE

A	ORDERLIES STAIRS	I	PROVISION STORES
B	OFFICERS SERTS	K	SCULLERY
C	COAL STORE	L	DISPENSER'S ROOM
D	OFFICERS KITCHENS	M	LIFTS FOUL LINEN & DUST
E	VEGETABLE STORE	N	N.C. OFFICERS QUARTERS
F	WINE CELLAR	O	WATER CLOSETS
G	BEER CELLAR	P	CLERK'S ROOM
H	STEWARD'S ROOM	Q	WAITING ROOM

PLAN OF BASEMENT SHOWING DRAINAGE

DRAWING Nº 4.

HERBERT HOSPITAL WOOLWICH.



REFERENCE
[TO FRONT BUILDING]

- A CARRIAGE ENTRANCE.
- B PORTERS ROOM.
- C WAITING ROOM.
- D. EXAMINATION ROOM.
- E. SURGEON'S ROOM.
- F LINEN NURSE'S ROOM.
- G NURSE'S STAIRCASE.
- H. MENDING ROOM.
- I CLEAN LINEN STORE.
- K. WATER CLOSETS
- L LAVATORIES
- M GOVERNORS ROOM.
- N CLERKS ROOM
- O PRIN^L MED^L OFF^R ROOM.
- P CLERK'S ROOM.
- Q OFFICERS STAIRCASE
- R REGISTRARS ROOM.
- S, T, U. } CAPTAIN OF ORDERLIES' ROOMS
- V ORDERLIES STAIRCASE.
- W. SERGEANT MAJORS Q^RS
- X PAYMASTER'S ROOM.
- Y CLERK'S ROOM.

REFERENCE.
[TO MAIN BUILDING.]

- a. STEWARD'S ROOM.
- b. PURVEYOR'S ROOM.
- c. CLERK'S ROOM.
- d. LIBRARIAN'S ROOM.
- e. N.C. OFFICERS QUART^RS
- f. NURSES ROOMS.
- g. SCULLERIES.
- h. DRESSING ROOM.
- i. WATER CLOSETS, SINKS, &c
- k. LAVATORIES, BATHS &c
- l WARD MASTER
- m. GUARD ROOM
- n LIFTS.

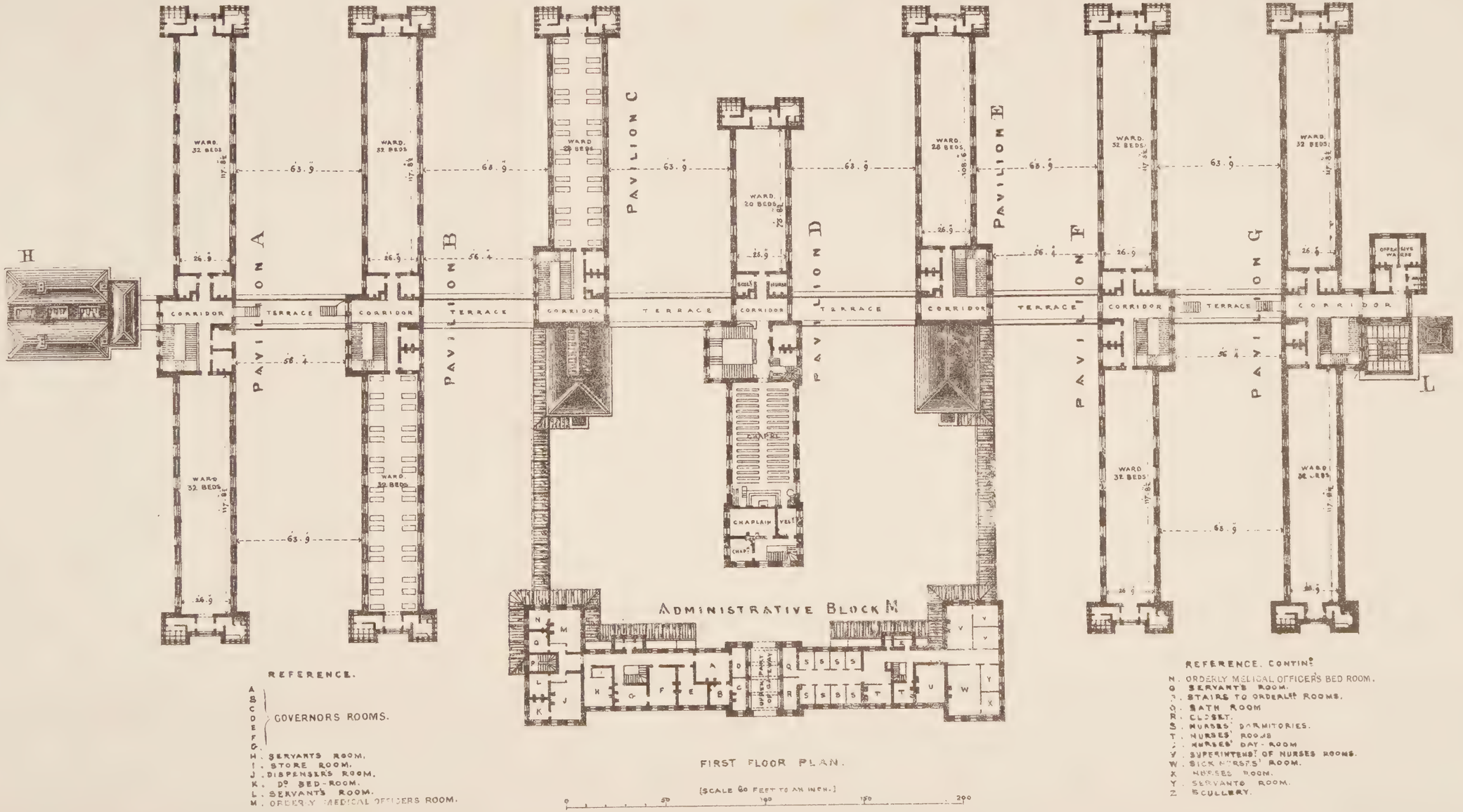
PLAN OF GROUND FLOOR.

[SCALE 60 FEET TO AN INCH.]

0 10 20 30 40 50 100 150 200 FEET

Lizy & Son Limited. Photo-lith

HERBERT HOSPITAL WOOLWICH.



FIRST FLOOR PLAN.

[SCALE 60 FEET TO AN INCH.]

0 50 100 150 200

REFERENCE.

A B C D E F. GOVERNORS ROOMS.

H. SERVANTS ROOM.
I. STORE ROOM.
J. DISPENSERS ROOM.
K. Dº BED-ROOM.
L. SERVANT'S ROOM.
M. ORDERLY MEDICAL OFFICERS ROOM.

REFERENCE. CONTINº

N. ORDERLY MEDICAL OFFICERS BED ROOM.
O. SERVANTS ROOM.
P. STAIRS TO ORDERLIES ROOMS.
Q. BATH ROOM
R. CLOSET.
S. NURSES' DORMITORIES.
T. NURSES' ROOMS
U. NURSES' DAY-ROOM
V. SUPERINTENDTº OF NURSES ROOMS.
W. SICK NURSES' ROOM.
X. NURSES ROOM.
Y. SERVANTS ROOM.
Z. SCULLERY.

W

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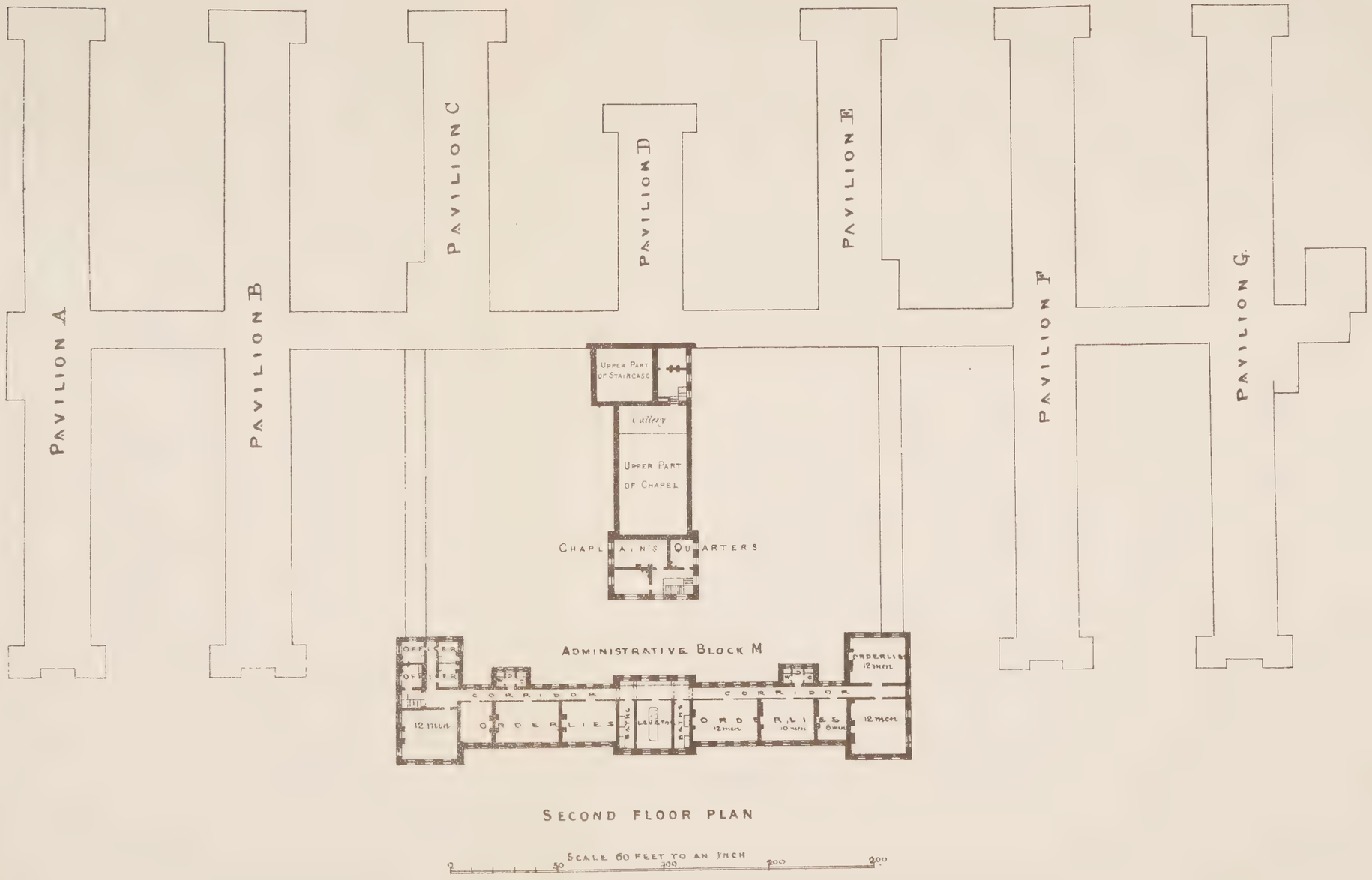
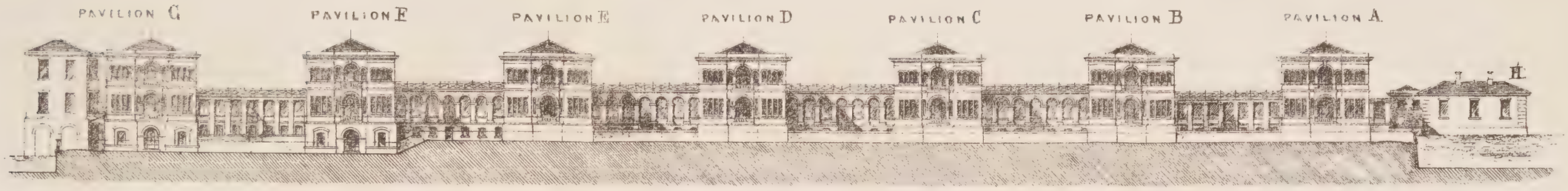
DRAWING Nº 6.

HERBERT-HOSPITAL.WOOLWICH



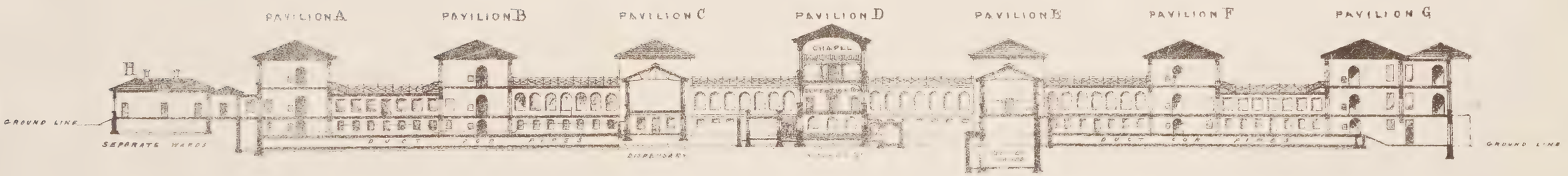
Day & Son Limited. Photo-litho.

HERBERT HOSPITAL WOOLWICH.



SECTION OF TERRACE WITH ELEVATION OF ENDS OF PAVILIONS.

SCALE OF FEET
0 50 100 150 200



SECTION OF CORRIDOR SHEWING LEVELS OF BOILER-HOUSE KITCHEN &c

W
12/65

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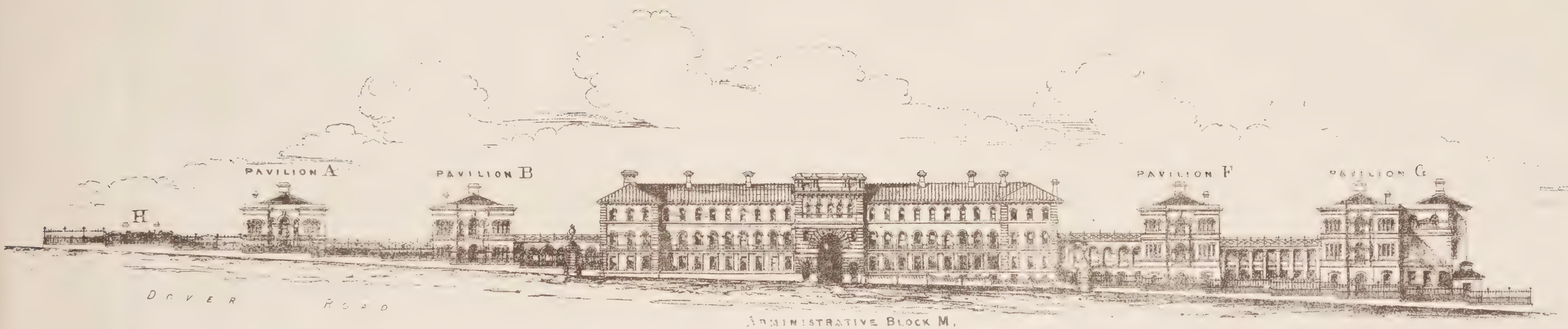
DRAWING N° 8.

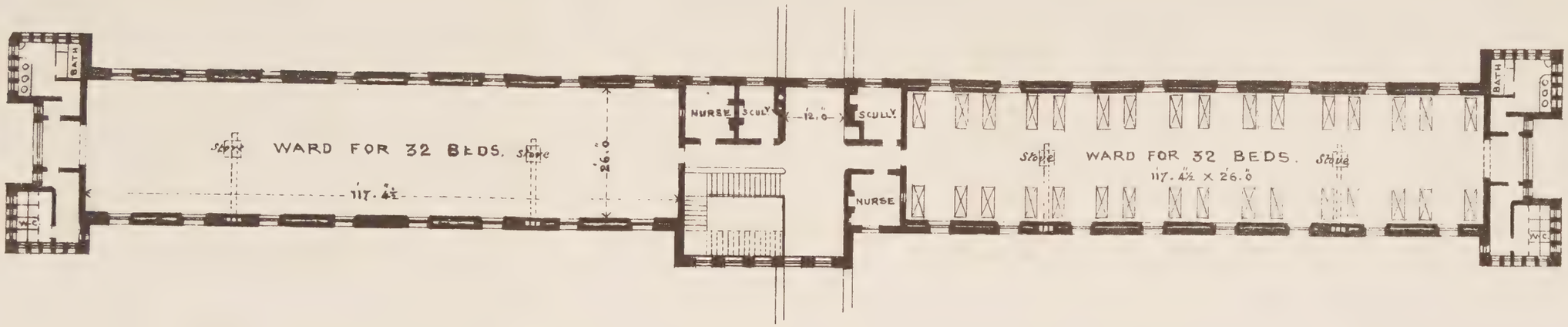
HERBERT HOSPITAL WOOLWICH.



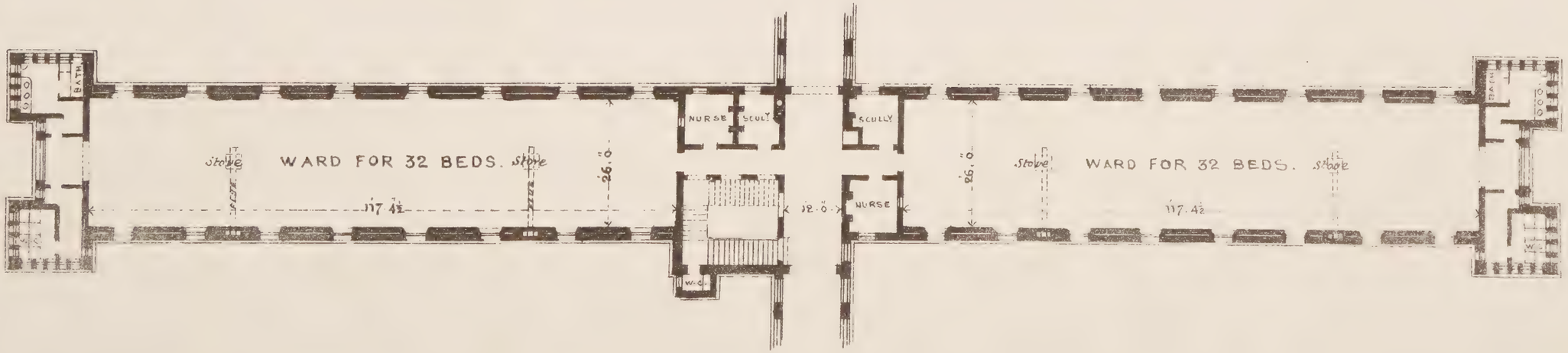
ELEVATION OF FRONT BUILDING WITH ENDS OF PAVILIONS, SHEWING LEVELS.

HERBERT HOSPITAL WOOLWICH.

PLAN OF DOUBLE PAVILION SHEWING WARDS



PLAN OF FIRST FLOOR.



PLAN OF GROUND FLOOR.

SCALE OF FEET.

10 5 0 10 20 30 40 50 100 150 200

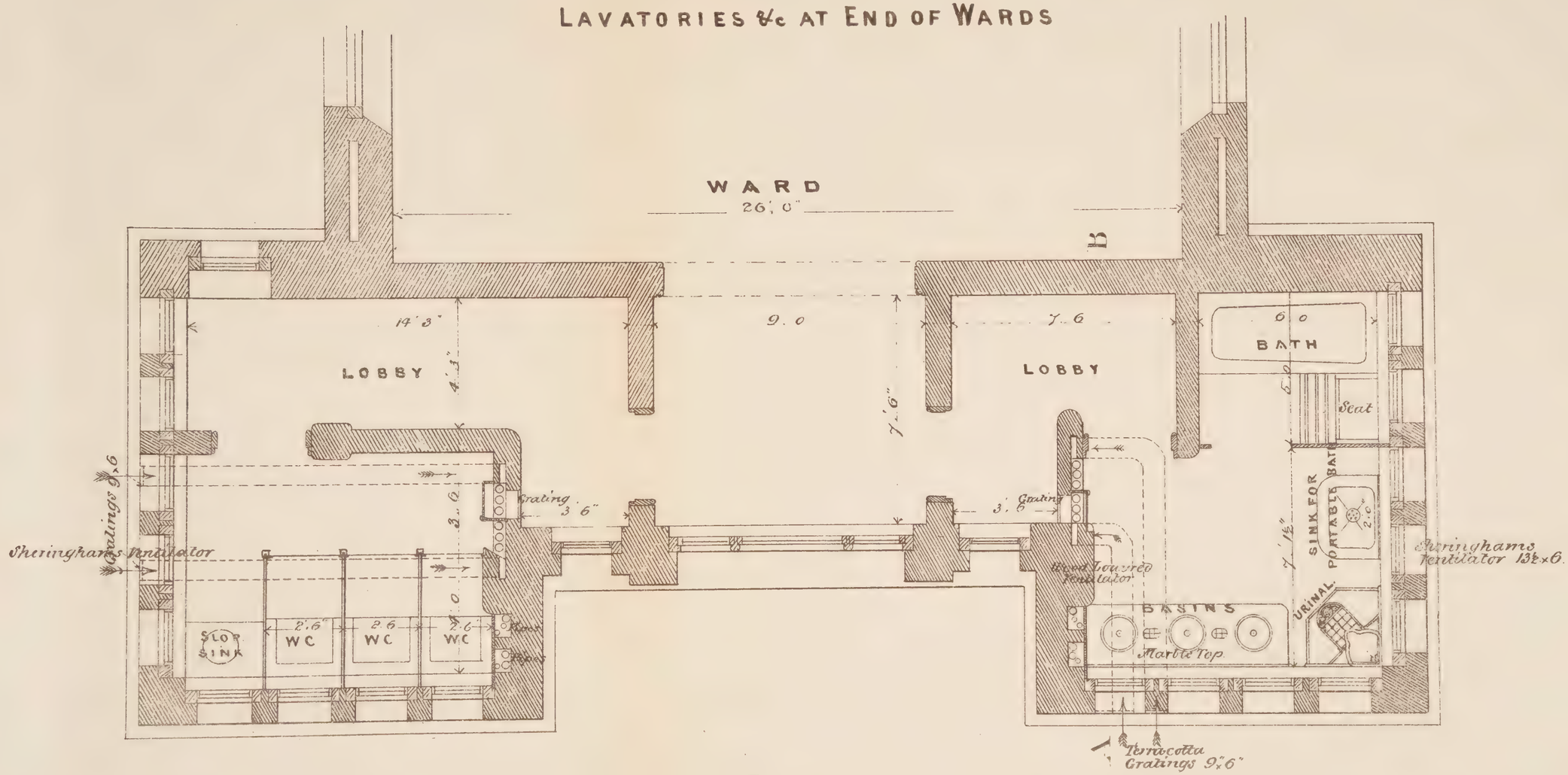
Day & Son, Limited Photo Lith.

DRAWING Nº 10

HERBERT HOSPITAL

— WOOLWICH —

LAVATORIES &c AT END OF WARDS



PLAN

SCALE 4 FEET TO ONE INCH

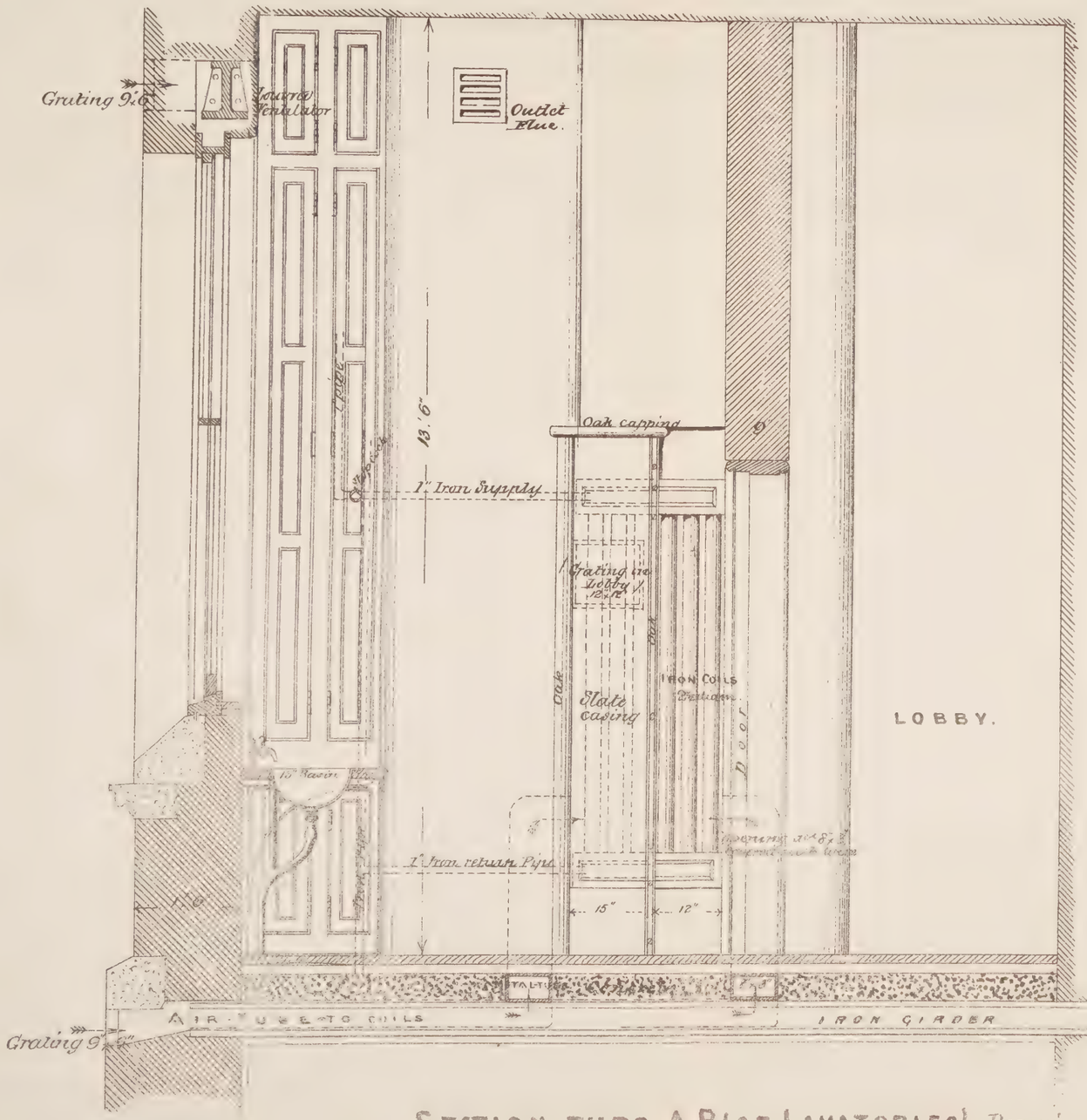
10 5 0 10 20

Day Son (Limited) Photo-Lith

DRAWING Nº 11

HERBERT HOSPITAL WOOLWICH.

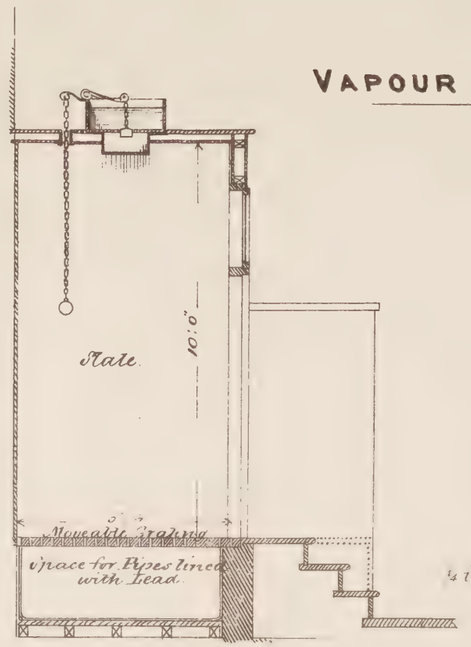
LAVATORY &c.



SECTION - THRO A B C OF LAVATORIES. *Drawing No 10.*

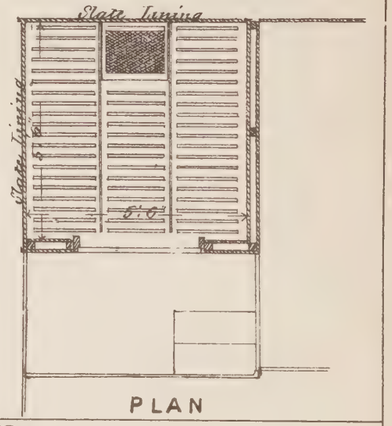
Scale ½ inch to a foot

VAPOUR BATH

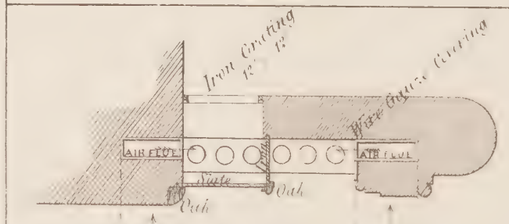


½ inch Scale

SECTION

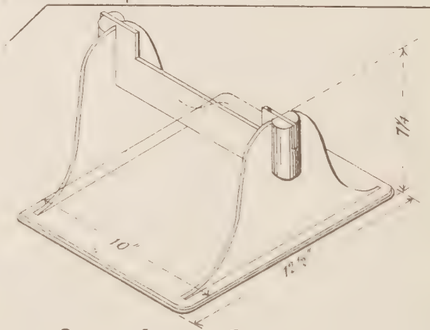


PLAN



PLAN OF HOT WATER COILS

½ inch Scale



CAST IRON SCRAPER

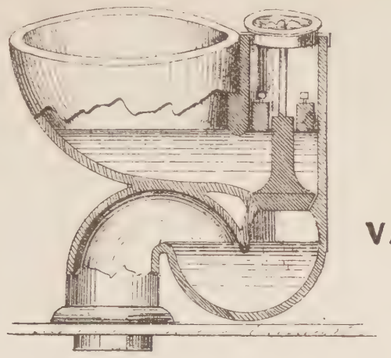
⅛ Full size

PLAN OF HOLLOW WALL *½ inch Scale*

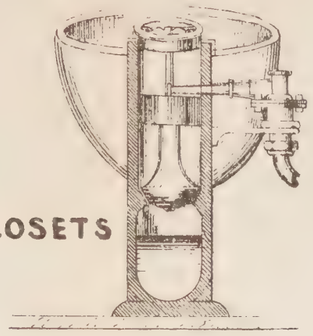
Day & Son lithographers to the Queen

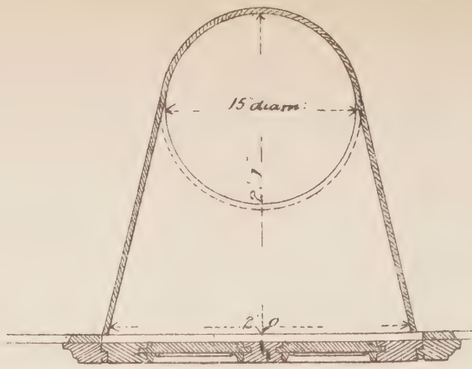
HERBERT HOSPITAL

DRAWING Nº 12.

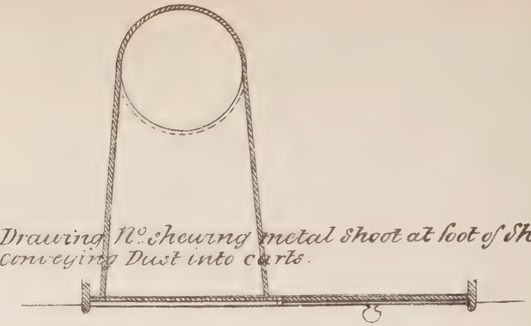


SECTION OF VALVE WATER CLOSETS

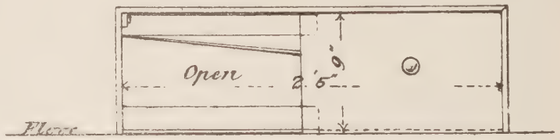




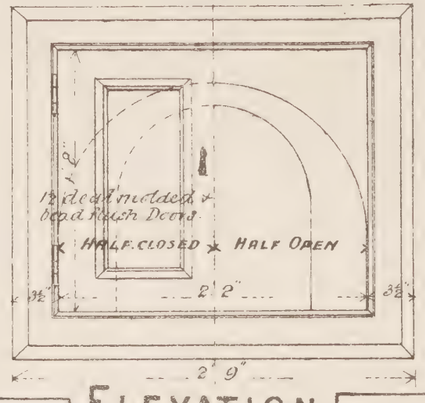
PLAN OF FOUL LINEN SHAFT



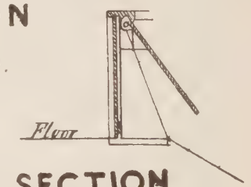
PLAN OF DUST SHAFT

'Wrought Iron Door and Frame.'

ELEVATION

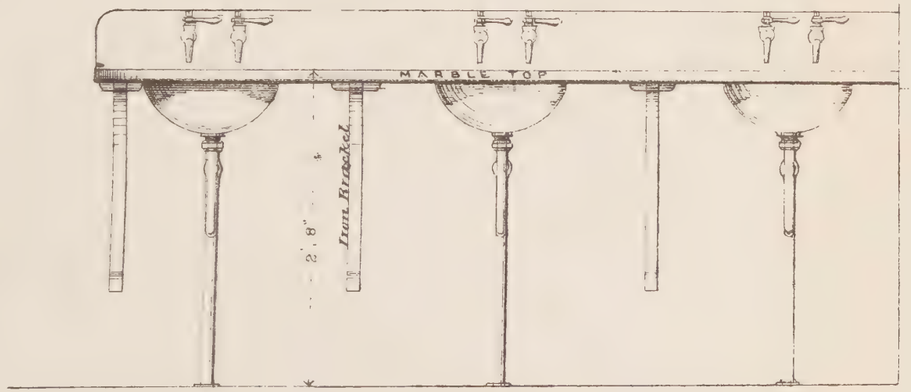
Inch scale.



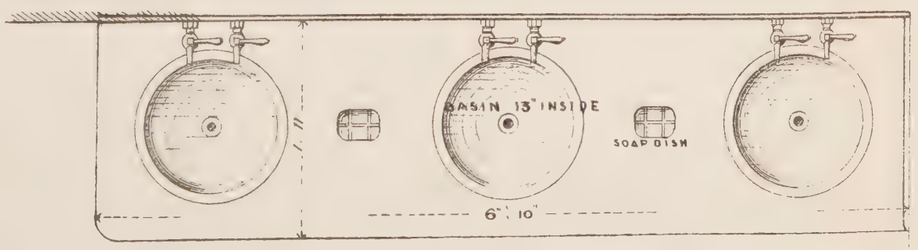
ELEVATION



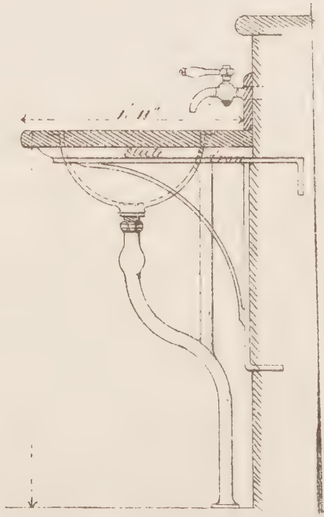
SECTION



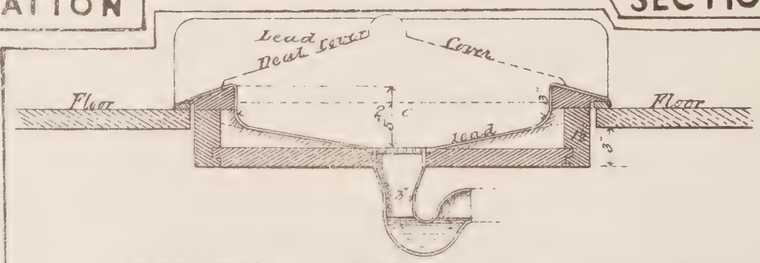
ELEVATION OF WASHING BASINS ¾ INCH SCALE



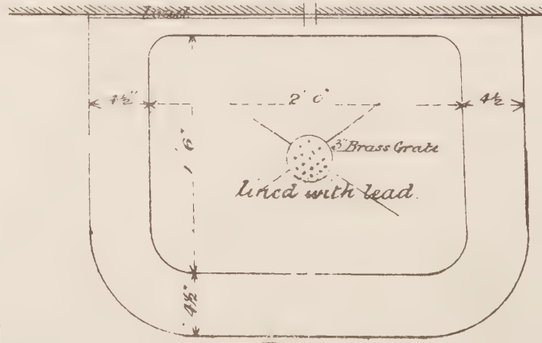
PLAN OF TOP (White marble)



SECTION OF BASINS



SECTION OF SINK FOR EMPTYING PORTABLE BATH



PLAN

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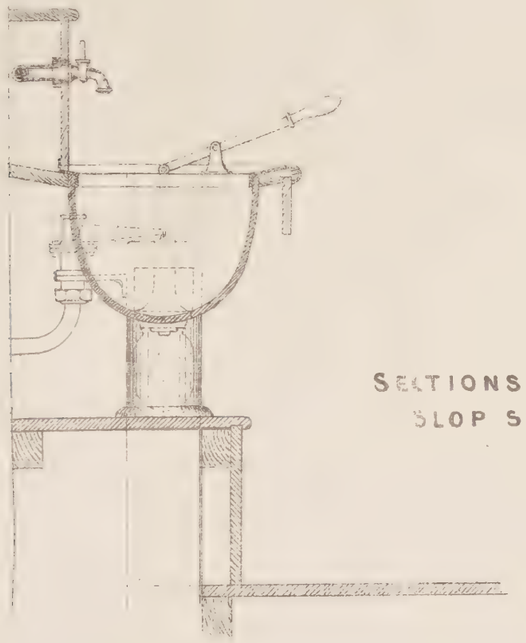
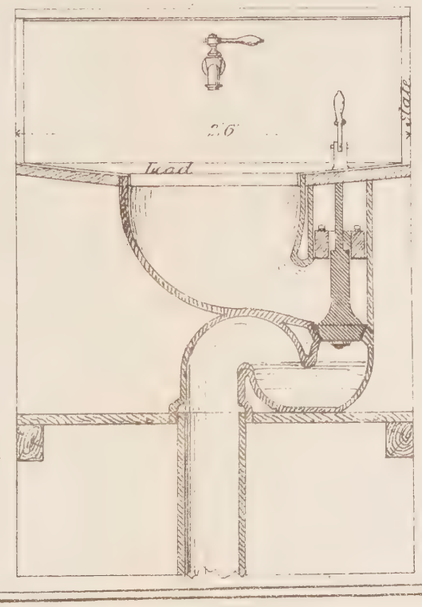
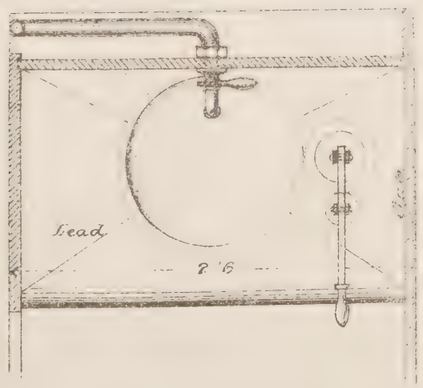
HERBERT HOSPITAL WOOLWICH

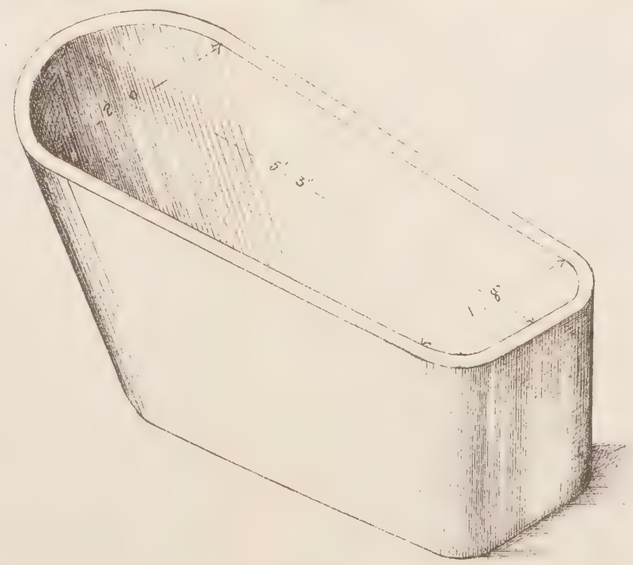


SECTIONS OF SLOP SINK





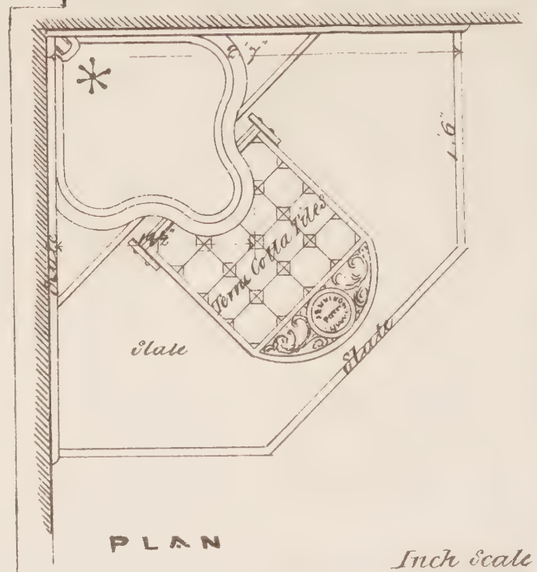
PLAN OF SLOP SINK



BATH *Rufford and Finch*

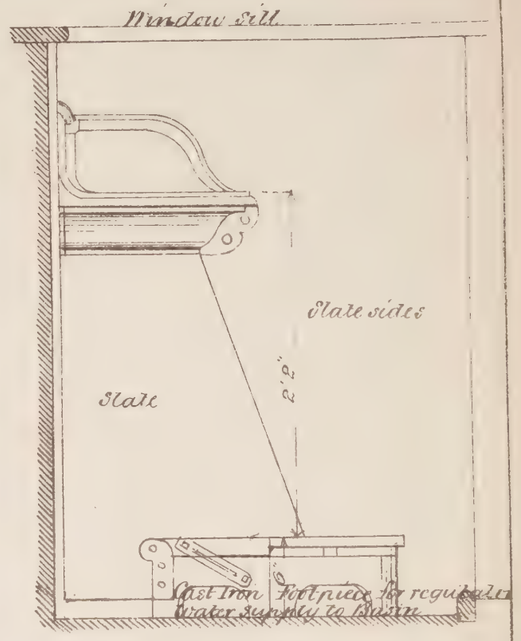
SCALE 12 9 6 3 0 1 2 3 4

FORMS OF URINALS FOR WARD LAVATORIES

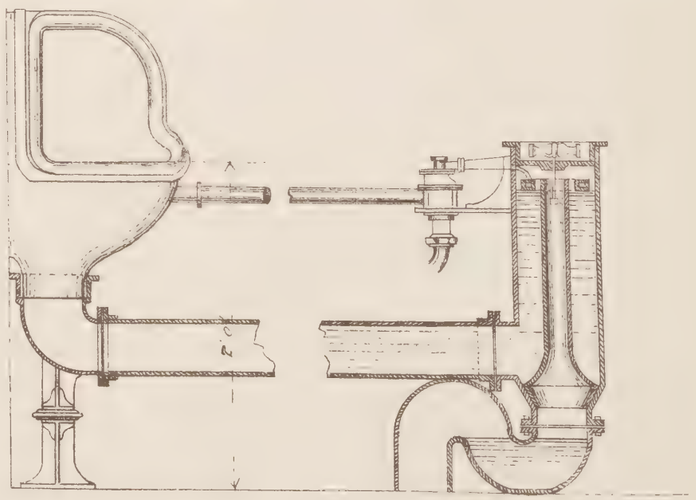


PLAN

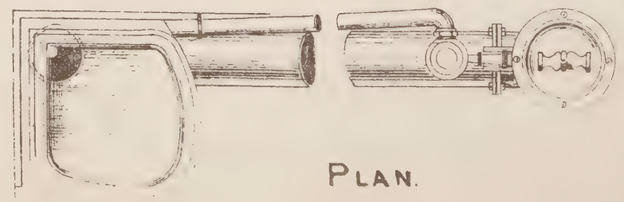
Inch Scale



ELEVATION



FRONT VIEW *Inch scale*



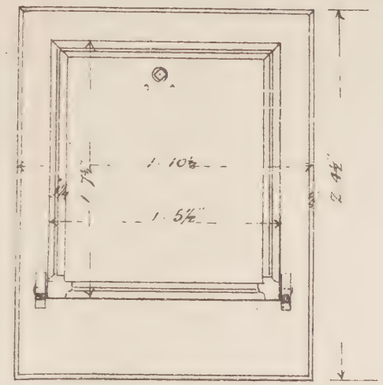
PLAN.

Day & Son Limited Photo-lith.

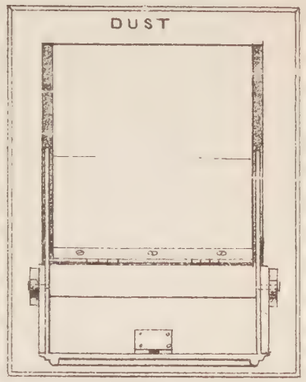
HERBERT HOSPITAL WOOLWICH

DRAWING Nº 14.

Whistle

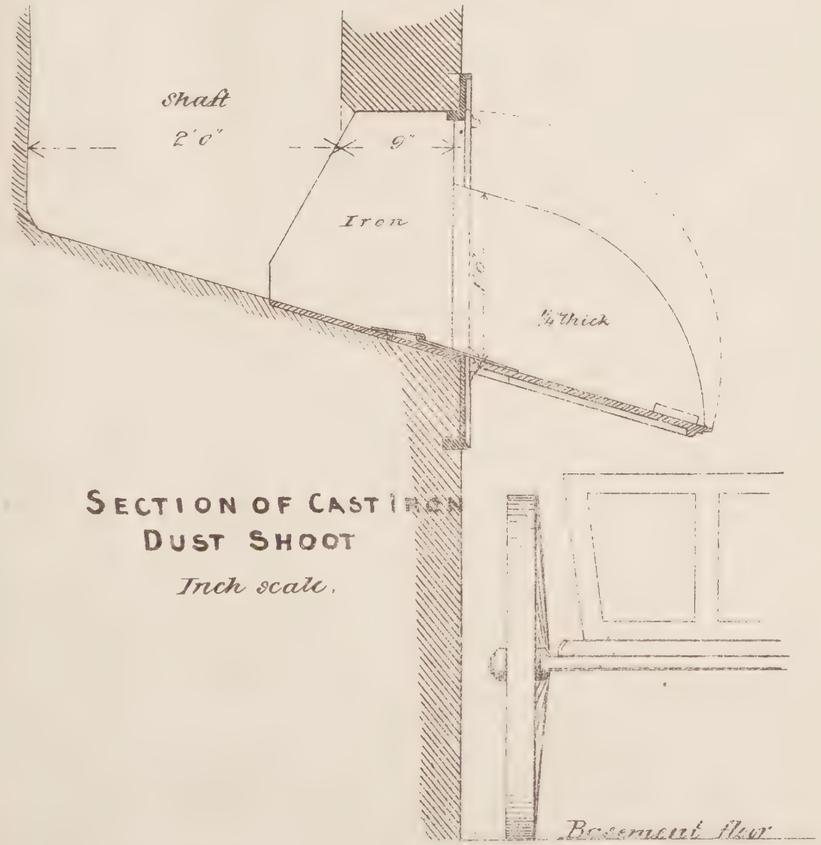


Closed



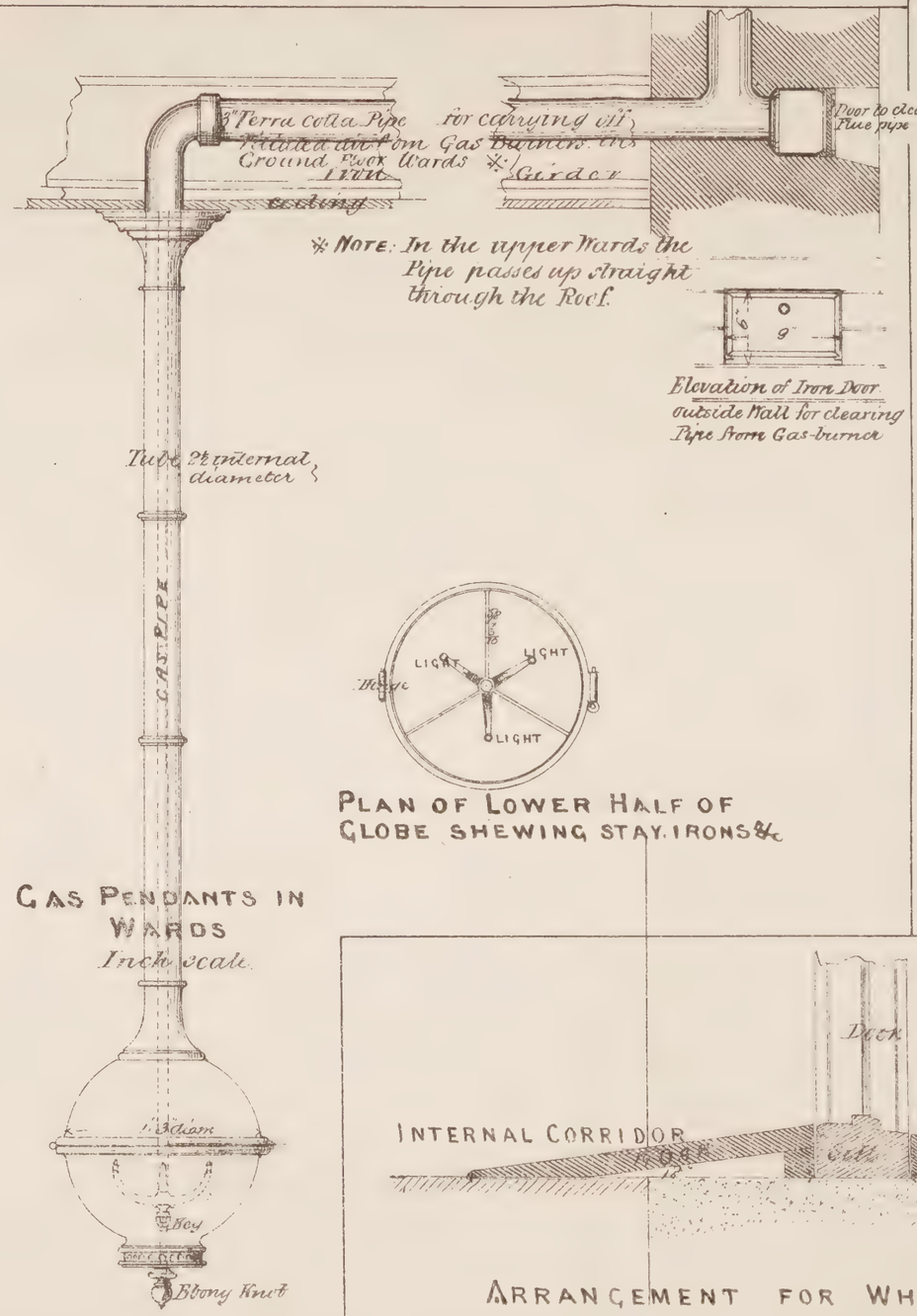
Open

- ELEVATIONS -



SECTION OF CAST IRON DUST SHOOT

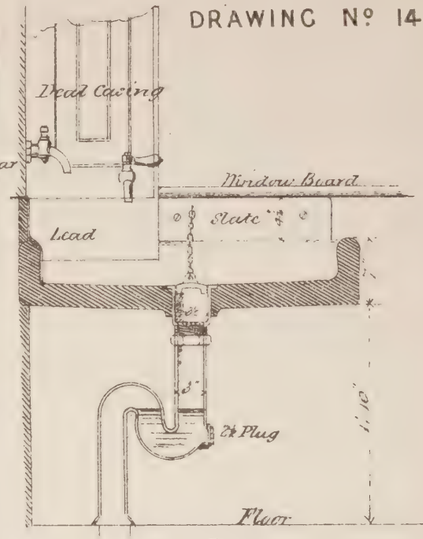
Inch scale.


3" Terra cotta Pipe for carrying off Vitiated air from Gas Burners in Ground Floor Wards *
Iron ceiling
Girder
Door to clear Flue pipe
* Note: In the upper Wards the Pipe passes up straight through the Roof.
9"
6"
Elevation of Iron Door outside Wall for clearing Pipe from Gas-burner
Tube 2½ internal diameter
CAST PIPE

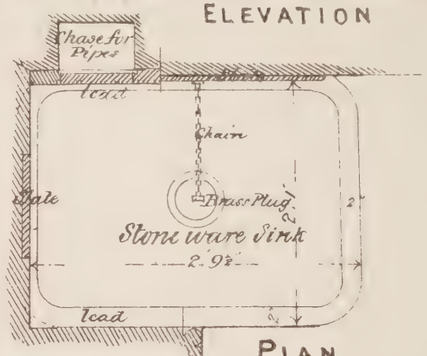
PLAN OF LOWER HALF OF GLOBE SHEWING STAY IRONS &c

GAS PENDANTS IN WARDS

Inch scale.



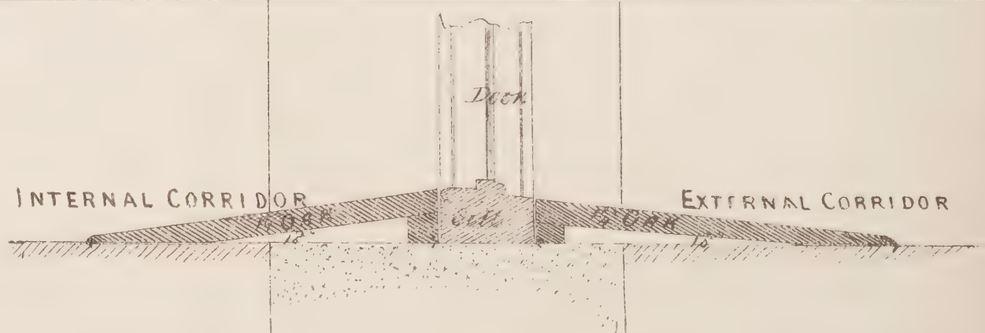
ELEVATION



PLAN.

SINK FOR WARD SCULLERIES

Scale ¾" to one foot



ARRANGEMENT FOR WHEELING PATIENTS OUT ON CORRIDOR

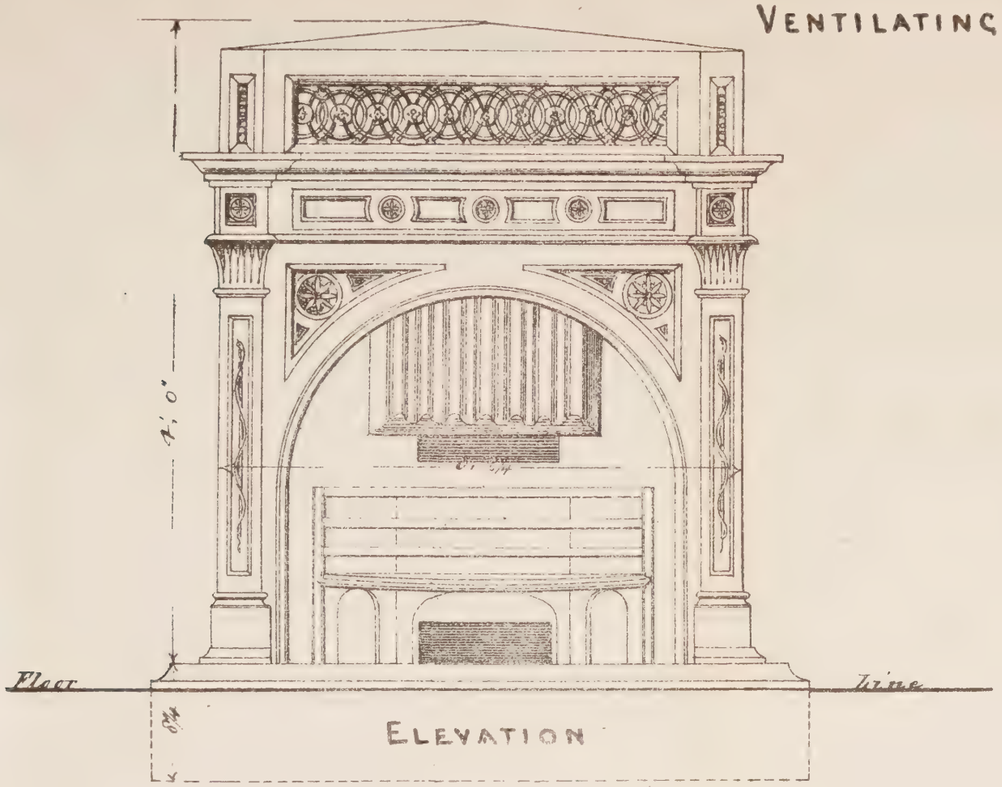
Scale ⅛th full size.

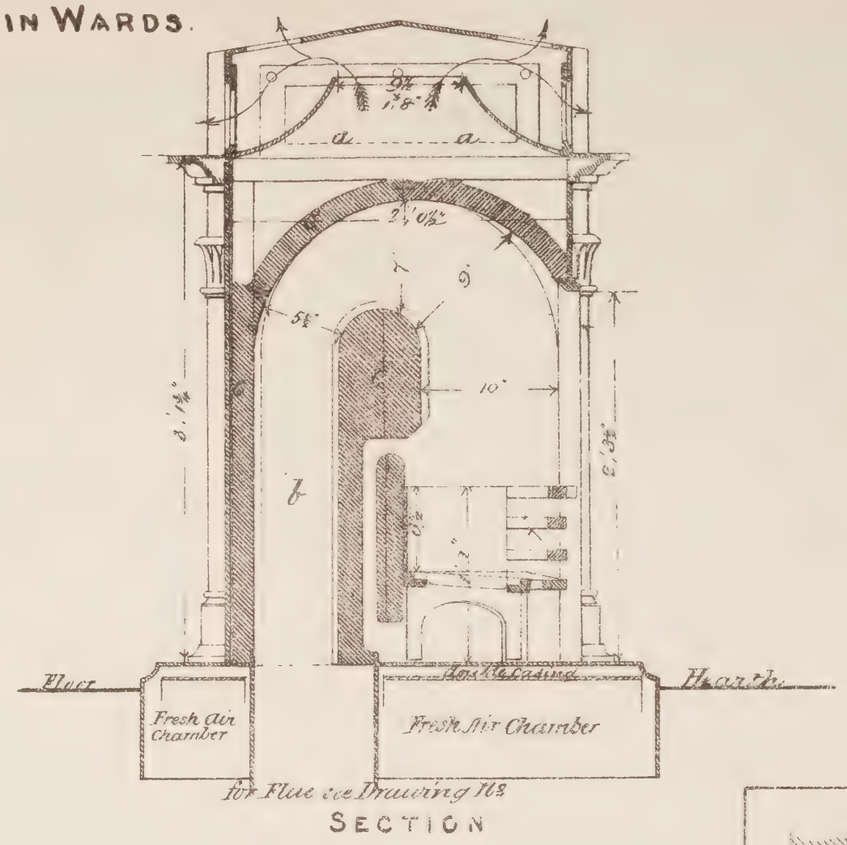
Day Son (Limited) Photo-Lith

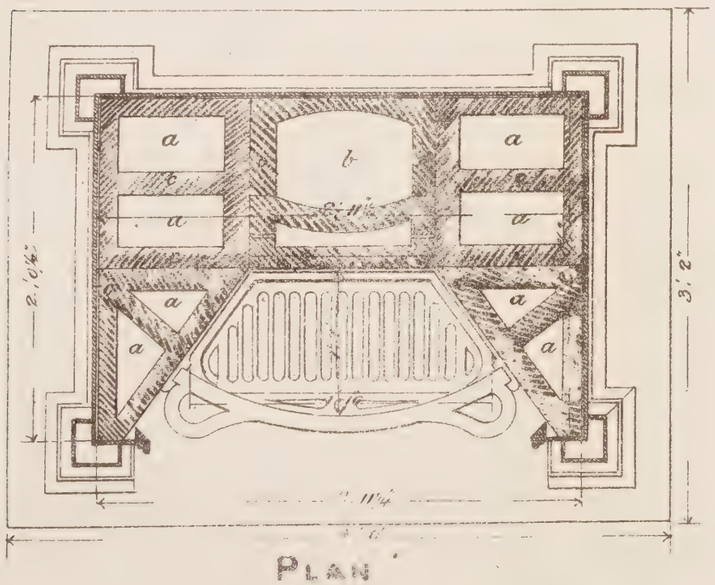
HERBERT HOSPITAL WOOLWICH

DRAWING Nº 15

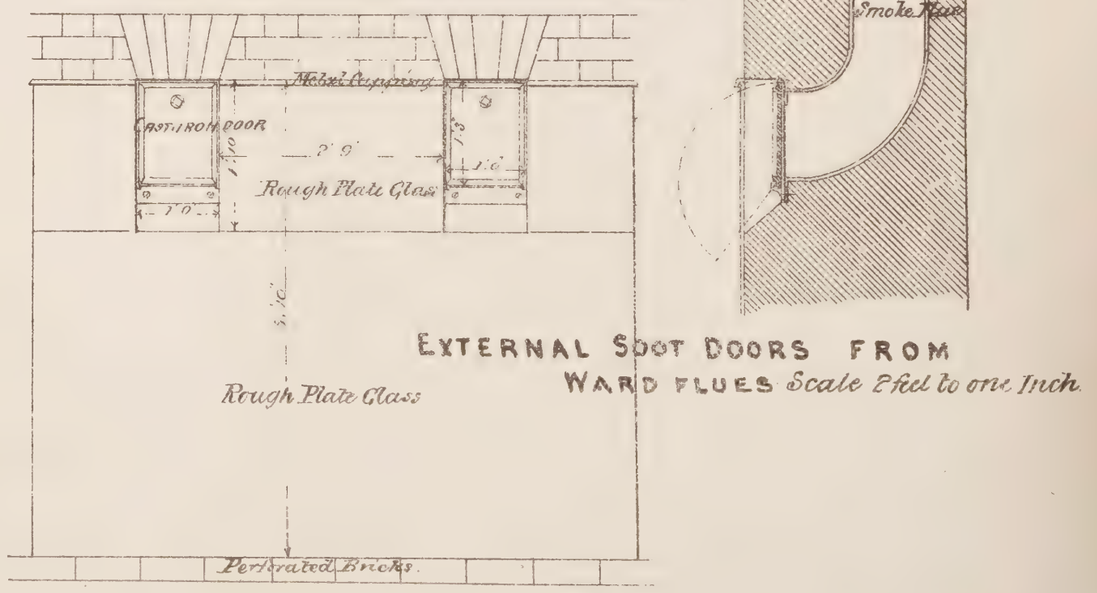
VENTILATING STOVE IN WARDS.







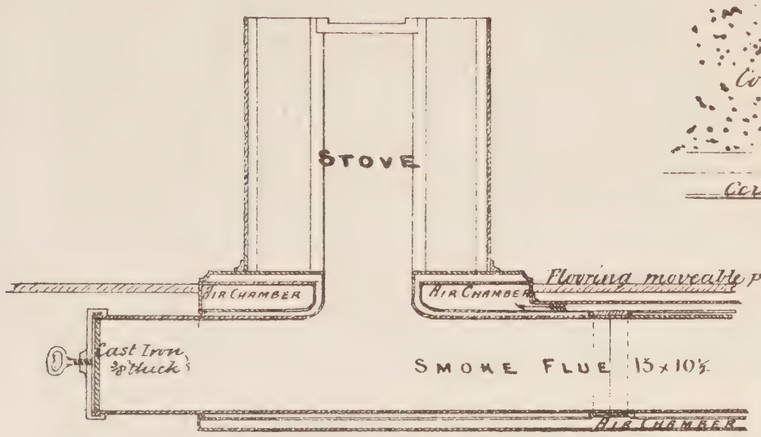
a a... Fresh Air Flues.
b. Smoke Flue.
c c... Fire Clay.



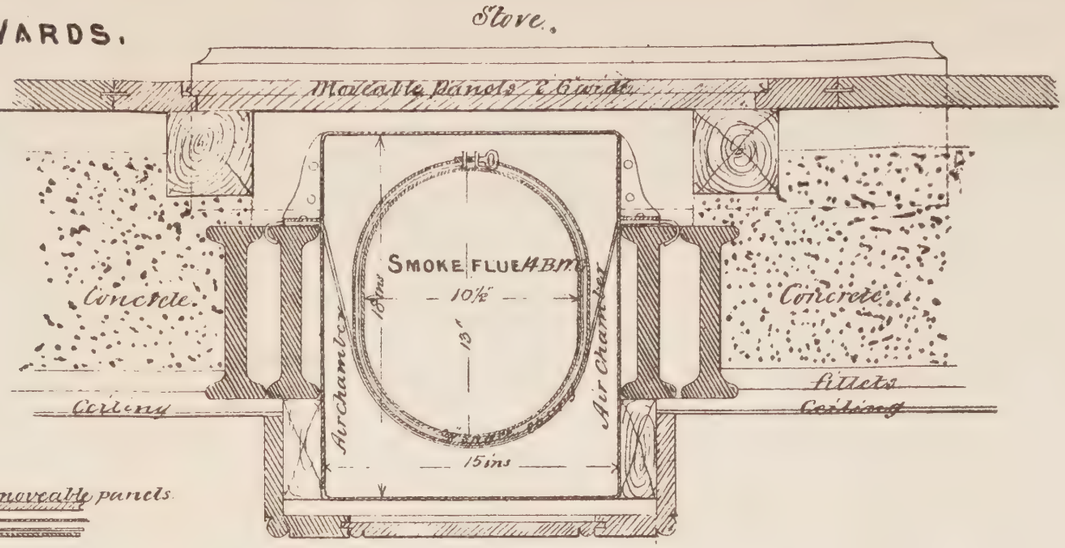
Day Son, Limited, Photo Lith

HERBERT HOSPITAL WOOLWICH

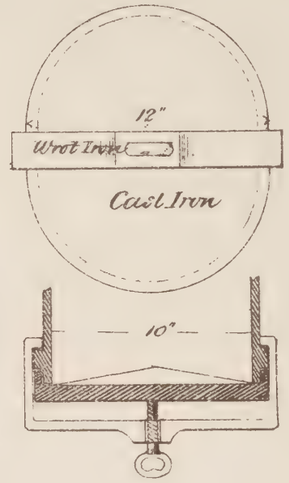
FLUES FROM VENTILATING STOVES IN WARDS.



SECTION

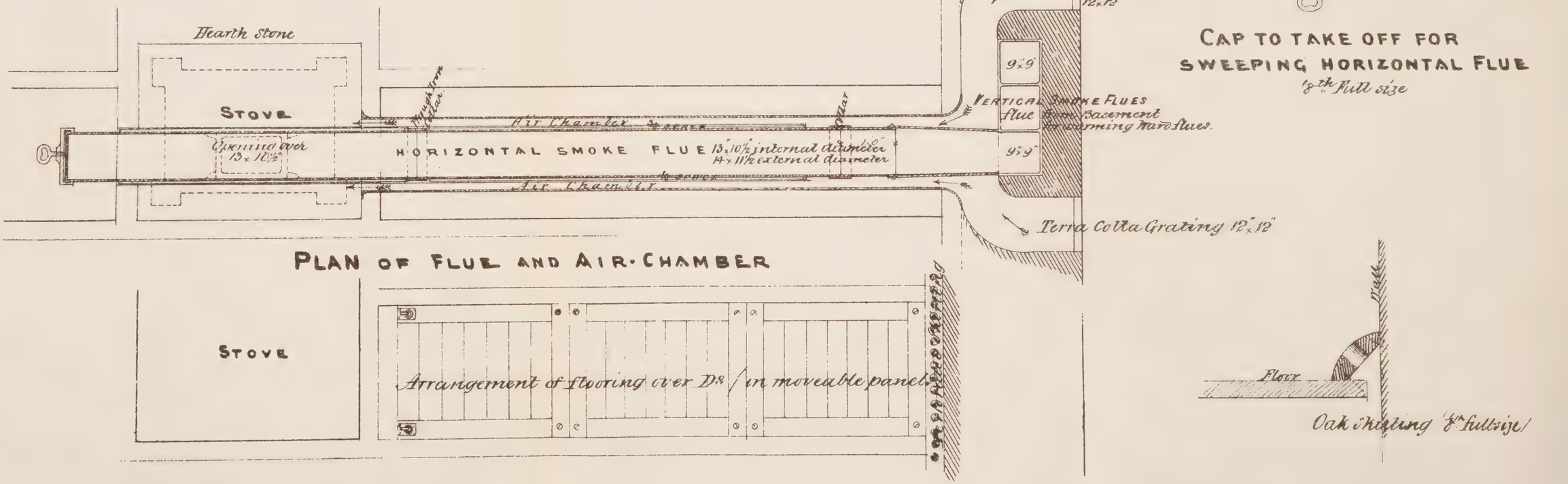


SECTION OF FLUE AND AIR CHAMBER SHEWING CASING ROUND FLUE (⅛ FULL SIZE)



CAP TO TAKE OFF FOR SWEEPING HORIZONTAL FLUE

⅛th Full size



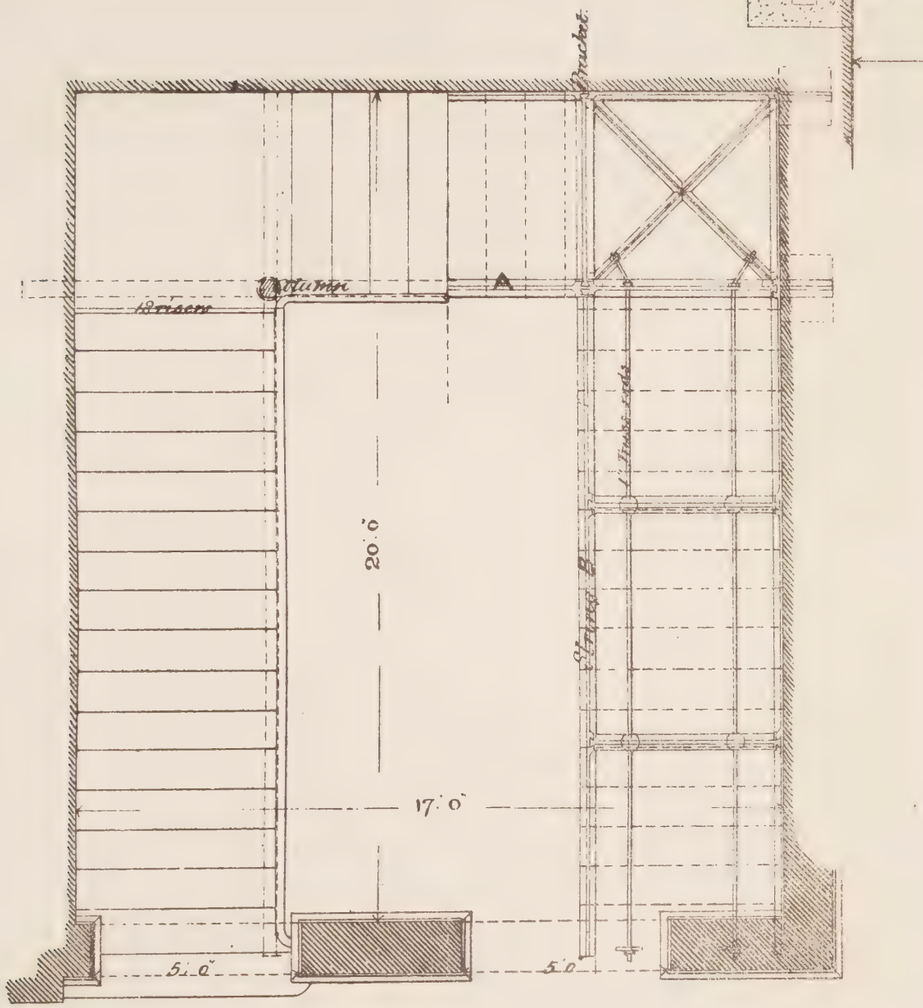
PLAN OF FLUE AND AIR-CHAMBER

Wm & Sons Limited, Photo-Lith

DRAWING No. 19

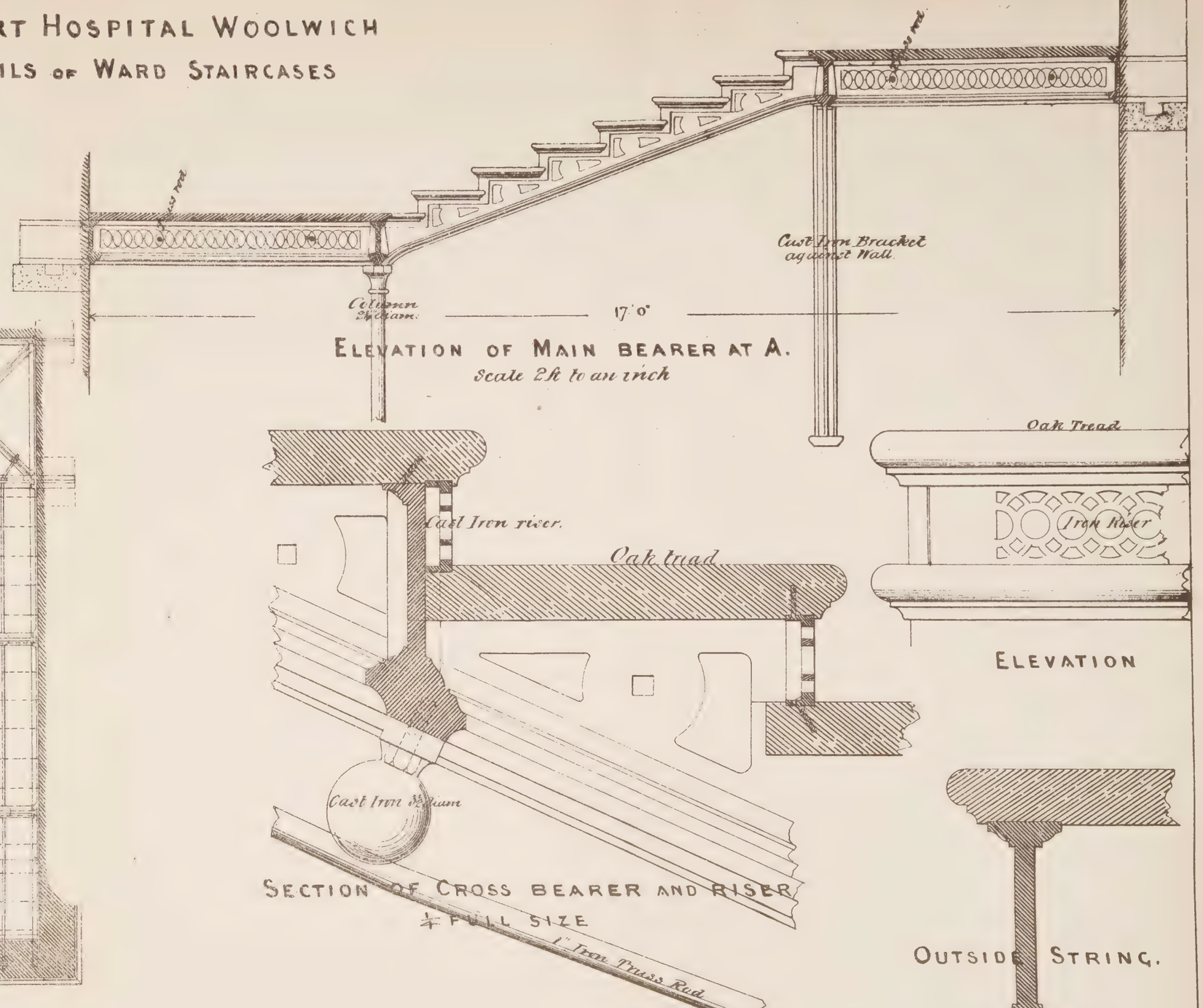
HERBERT HOSPITAL WOOLWICH

DETAILS OF WARD STAIRCASES



PLAN SHEWING IRON-STRINGS &c

SCALE. 10 feet



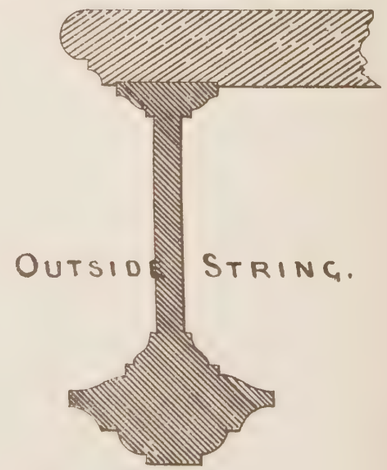
ELEVATION OF MAIN BEARER AT A.

Scale 2ft to an inch

ELEVATION

SECTION OF CROSS BEARER AND RISER

¼ FULL SIZE

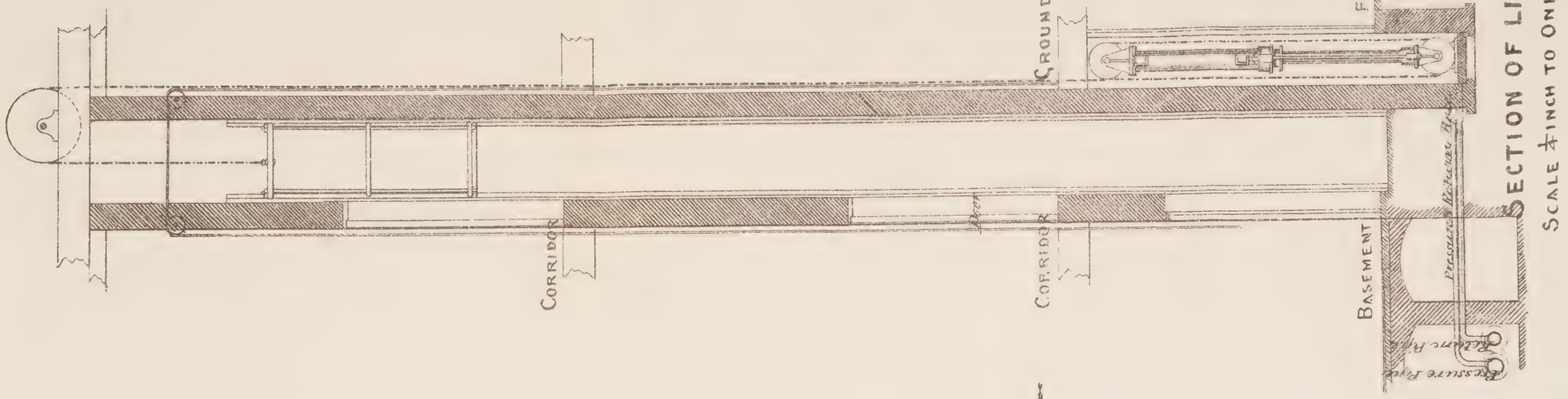


OUTSIDE STRING.

DRAWING No. 20.

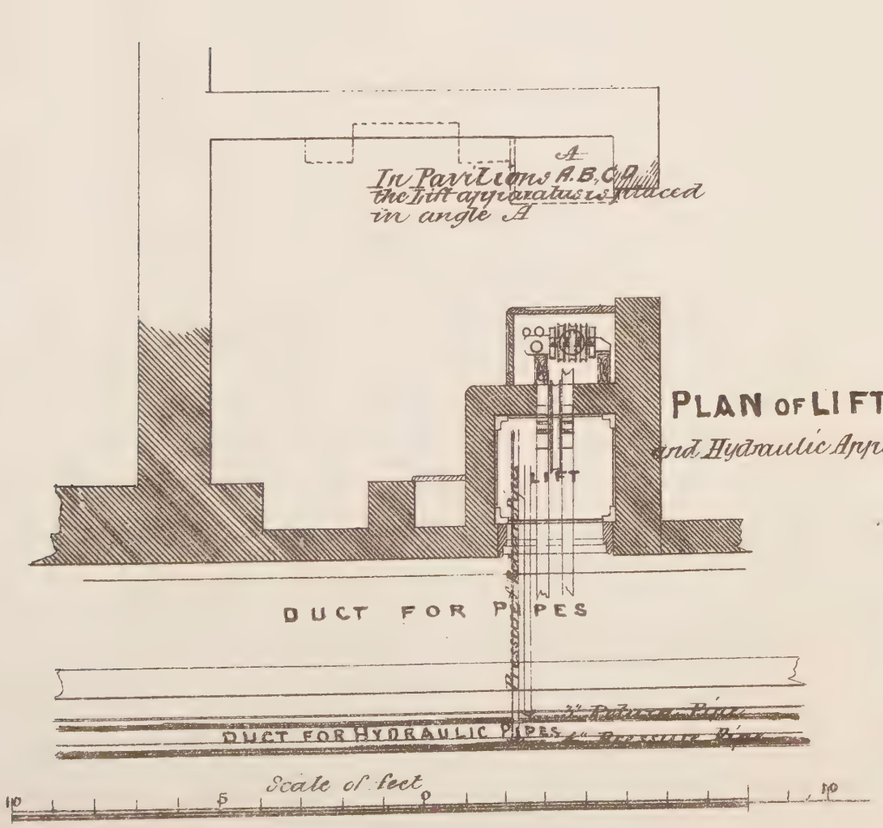
HERBERT HOSPITAL WOOLWICH.

HYDRAULIC LIFTS.

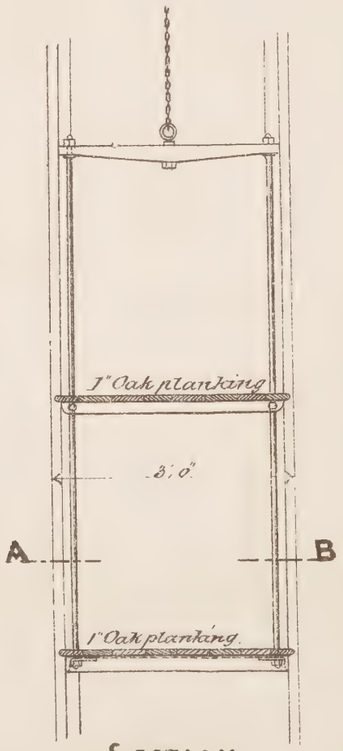


SECTION OF LIFT

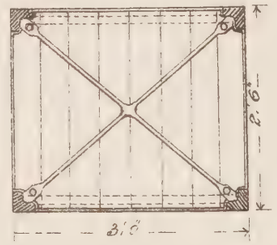
SCALE 1/4 INCH TO ONE FOOT



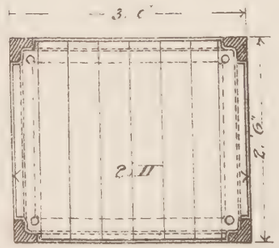
PLAN OF LIFT and Hydraulic Apparatus



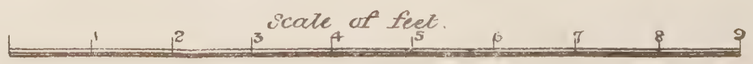
SECTION



TOP OF CAGE



SECTION THRO' A.B.



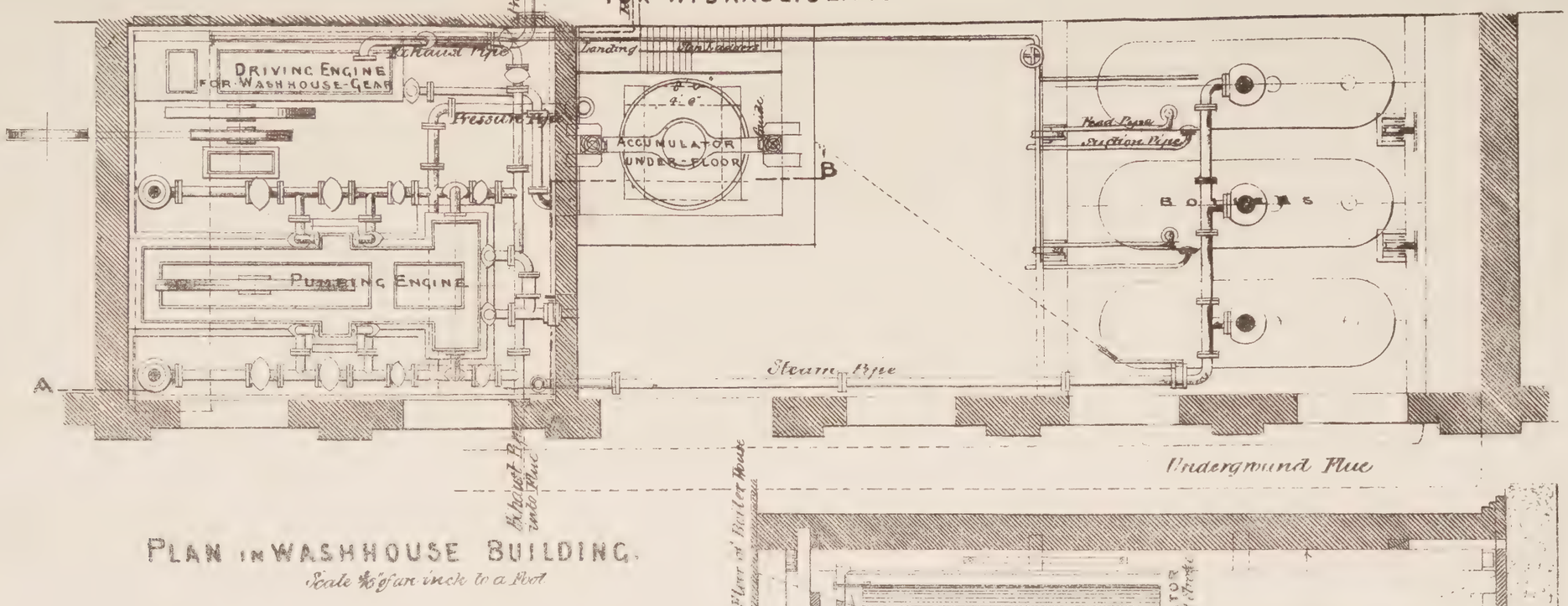
Day & Son Limited Photo-Lith.

DRAWING No. 21

HERBERT HOSPITAL WOOLWICH

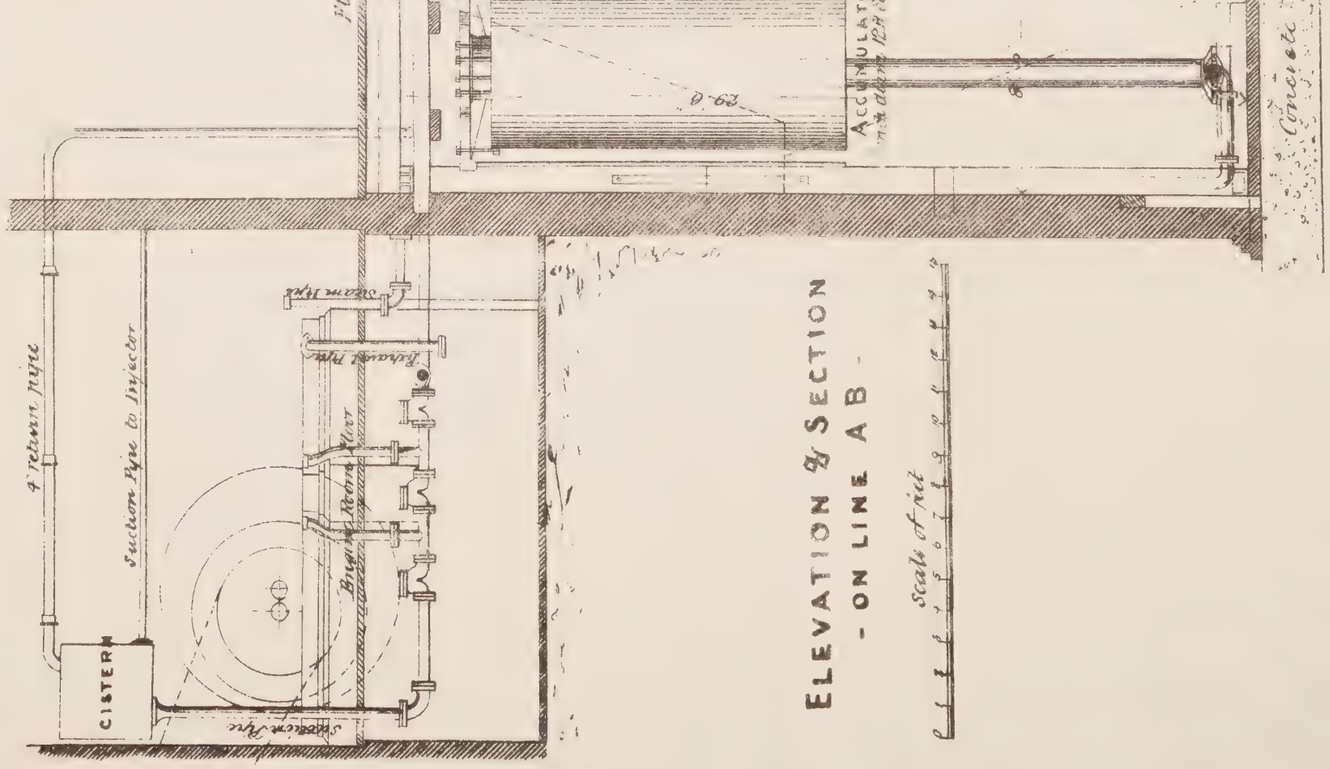
BOILERS & ENGINES WITH ACCUMULATOR.

FOR HYDRAULIC-LIFTS



PLAN IN WASHHOUSE BUILDING.

Scale ½ of an inch to a foot



ELEVATION & SECTION
- ON LINE A B -

Scale of feet

Day & Son Limited. Photo lith

VENTILATING GRATE FOR OFFICES, OFFICERS' QUARTERS, NURSES ROOMS, AND ORDERLIES ROOMS.

Fig. 1.

ELEVATION

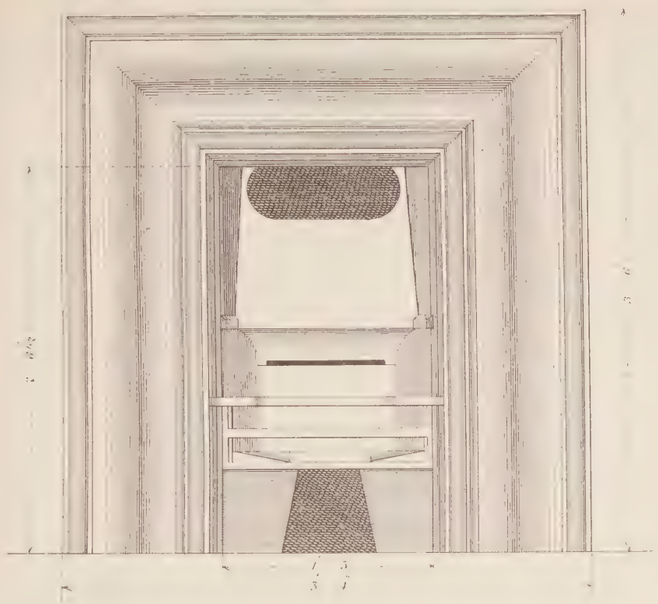
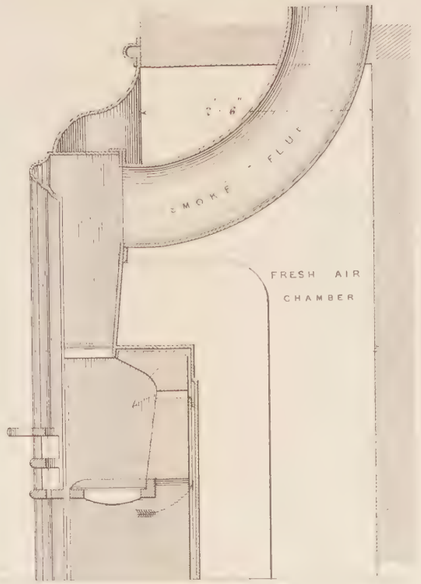


Fig. 2.



Width of Fire Opening	1	3			*Sizes of Stoves*	3	3	3	6
Dº .. Dº	Dº	1	5		Dº .. Dº	3	7	3	6
Dº .. Dº	Dº	1	9		Dº .. Dº	3	8	3	6

SCALE

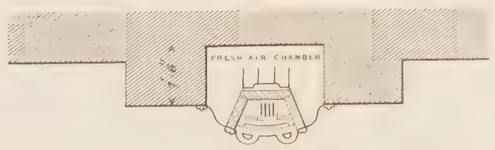
Inches 12 9 6 3 0 1 2 3 4 5 feet

Fig. 3.

ELEVATION OF CHIMNEY AND STOVE

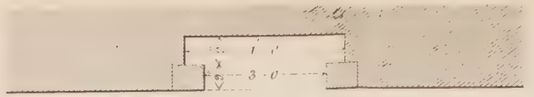
SHEWING THE FLUES.

Fig. 4.



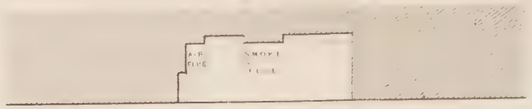
PLAN OF STOVE & AIR CHAMBER

Fig. 5.



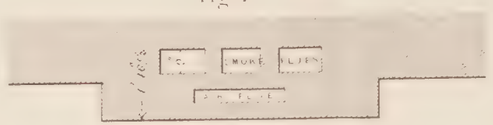
PLAN SHEWING THE METHOD OF FORMING THE AIR CHAMBER IN AN EXISTING 4 FEET FIRE PLACE.

Fig. 6.



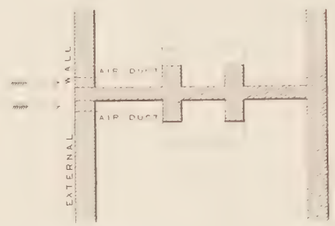
PLAN OF COVERING STONE FOR AIR CHAMBER

Fig. 7



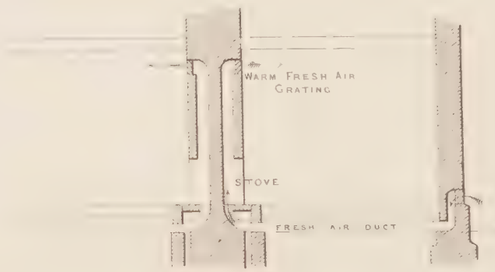
PLAN OF A CHIMNEY
SHEWING THE SMOKE & AIR FLUES

Fig. 8.



PLAN
SHEWING AIR DUCT ON THE FLOOR

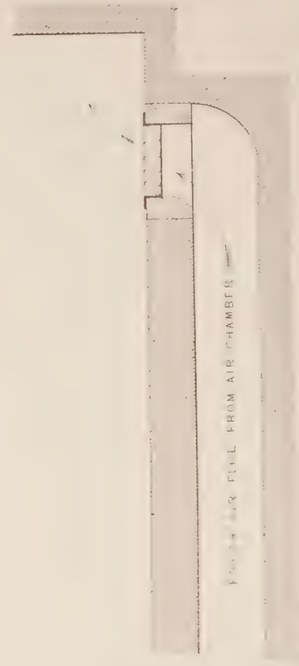
Fig. 9.



SECTION
SHEWING AIR DUCT UNDER THE FLOOR

Fig. 10.

VENTILATOR FOR OFFICERS ROOMS.



ELEVATION & SECTION OF LOUVRED FRAME
LOUVRES Nº 14 B.W.G.

Fig. 11.

PLAN OF AN AIR CHAMBER
SHEWING THE MODE OF ADMISSION OF AIR
THRO AN EXTERNAL WALL

Day & Son, (Limited) Lith.

HERBERT HOSPITAL WOOLWICH, WATER SUPPLY.

DRAWING Nº 23.

OCCUPATION ROAD

W.D.

6" Iron Socket Pipes from Kent Water Co's Main in Dover Road

ROAD

LIME-PITS

YARD.

6" Pipe from Source of Rain

Curb Stone

ROAD.

GATE

Trapped Catchpit

Paved Channel

Bottom of Reservoirs 317 above datum

YARD

Grating

9" Pipe Drain

Inlet Drain

W.D. Drains

6"

6" Stone Pipe drain

6" Pipes

6" Iron Socket Pipes to Hospital

BRICK BARREL DRAIN

Catch Pit

4"sc

6"sc

BLOCK PLAN. SHEWING DRAINS. PIPES &c

SCALE

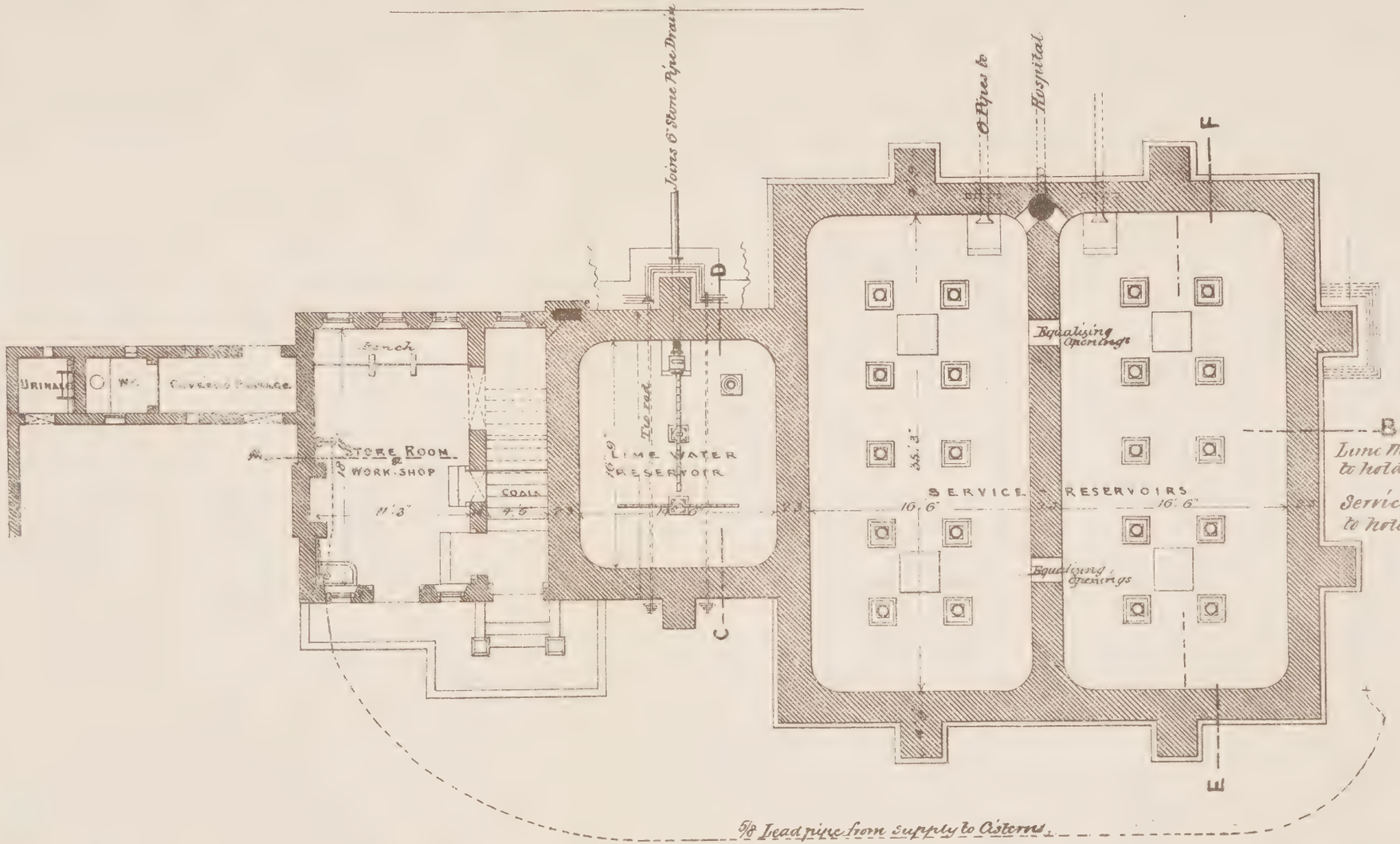
10 0 10 20 30 40 50 60 feet

General Surface of Ground about 361' above Ordnance datum.

Day & Son (Limited) Photo Lith

HERBERT HOSPITAL WOOLWICH, WATER SUPPLY.

DRAWING Nº 24.



GROUND PLAN.

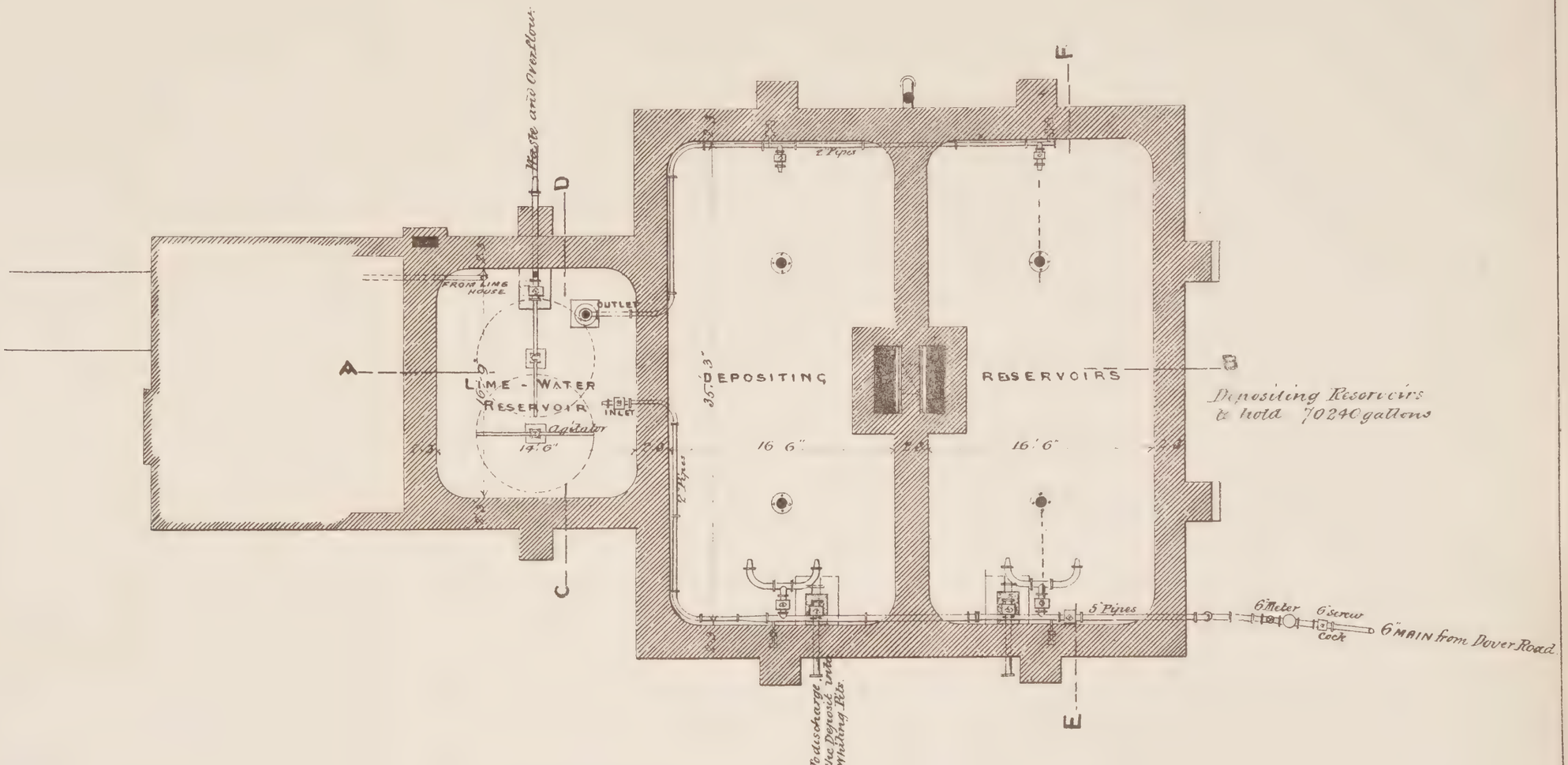
SCALE OF FEET

10 0 10 20 30 40 50 feet

Day & Son Lithers to the Queen

HERBERT HOSPITAL, WATER SUPPLY.

DRAWING Nº 25



FIRST FLOOR - PLAN BELOW GALLERY

(Shewing Pipes)

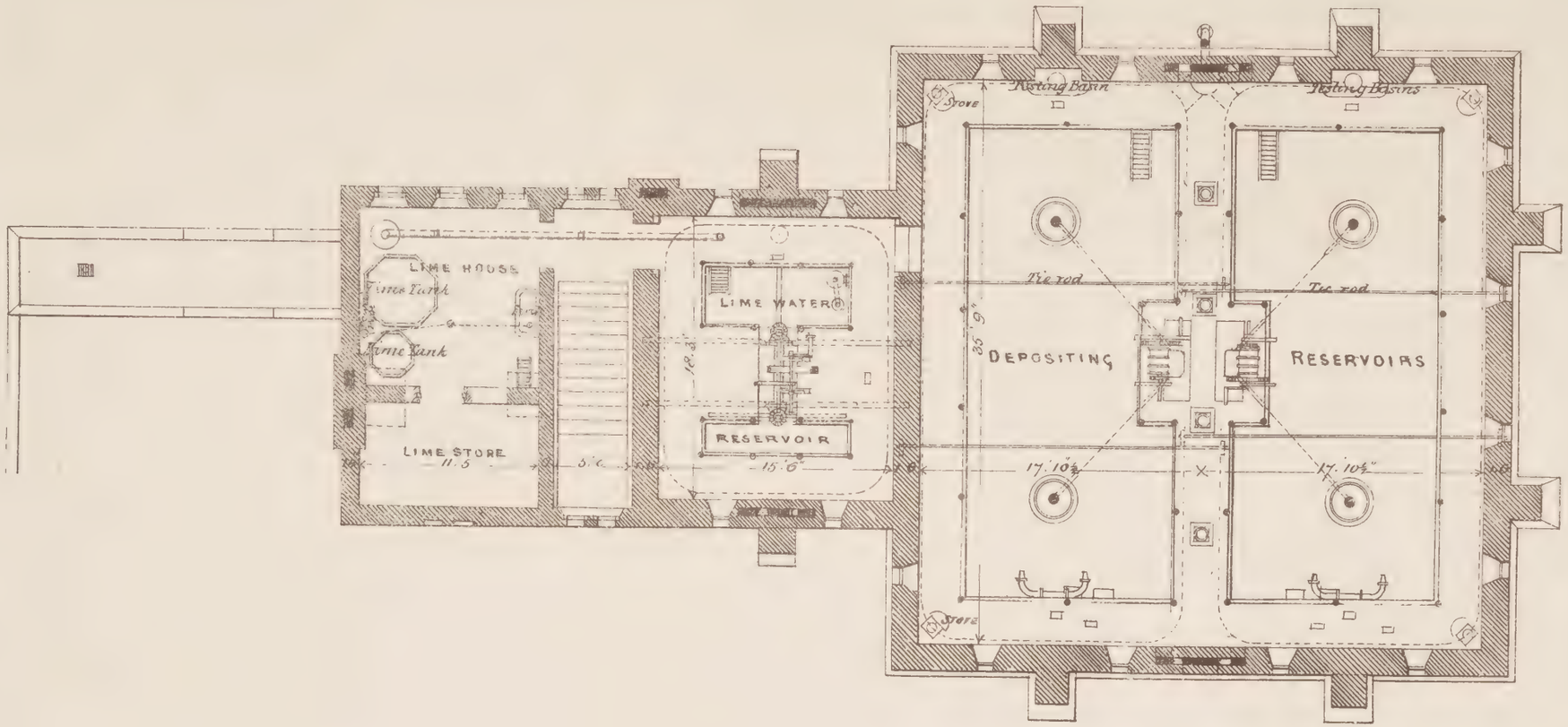
Depositing Reservoirs to hold 70240 gallons

SCALE OF FEET

0 10 20 30 40 50

HERBERT HOSPITAL. WATER SUPPLY.

DRAWING Nº 26.



FIRST FLOOR PLAN. ABOVE GALLERY

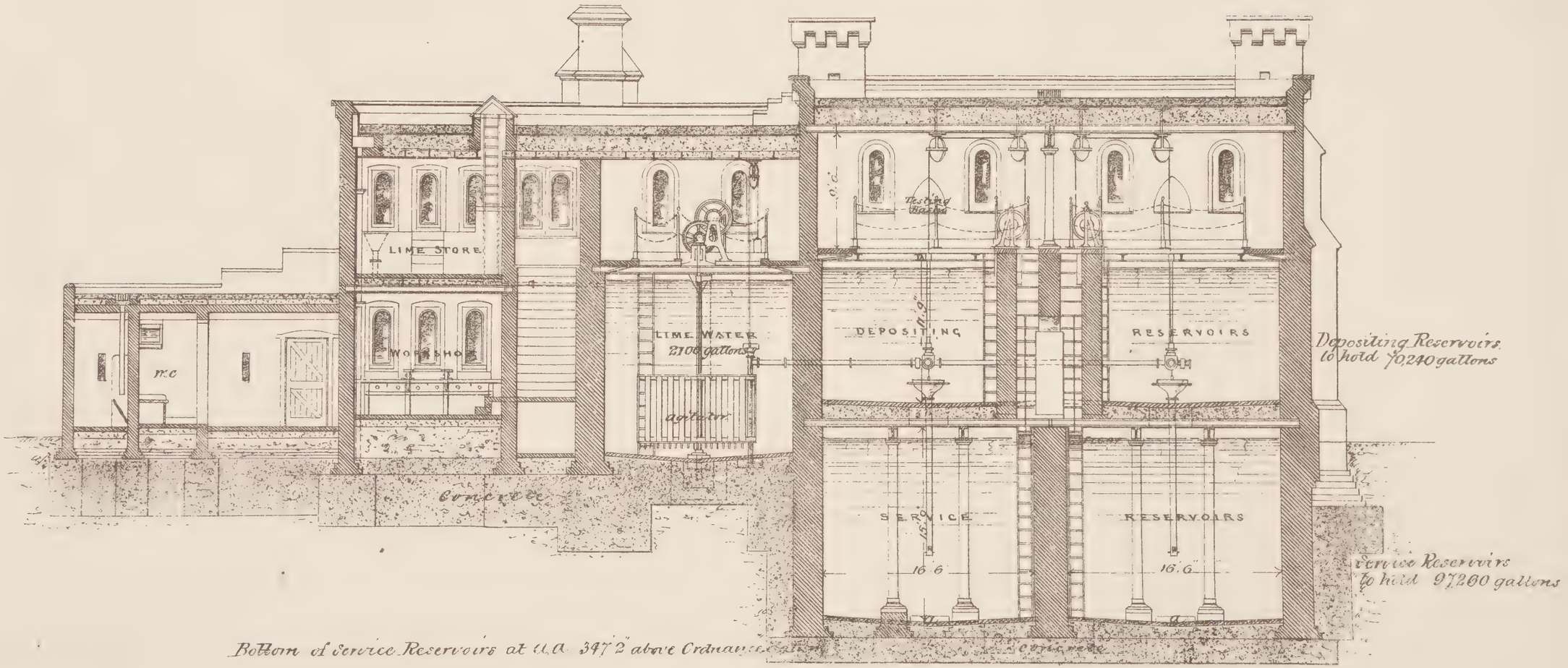
- SCALE OF FEET -

10 0 10 20 30 40 50

Day & Son Limited Photo Lith

HERBERT HOSPITAL, WATER SUPPLY.

DRAWING Nº 27



SECTION THRO' RESERVOIRS (AB)

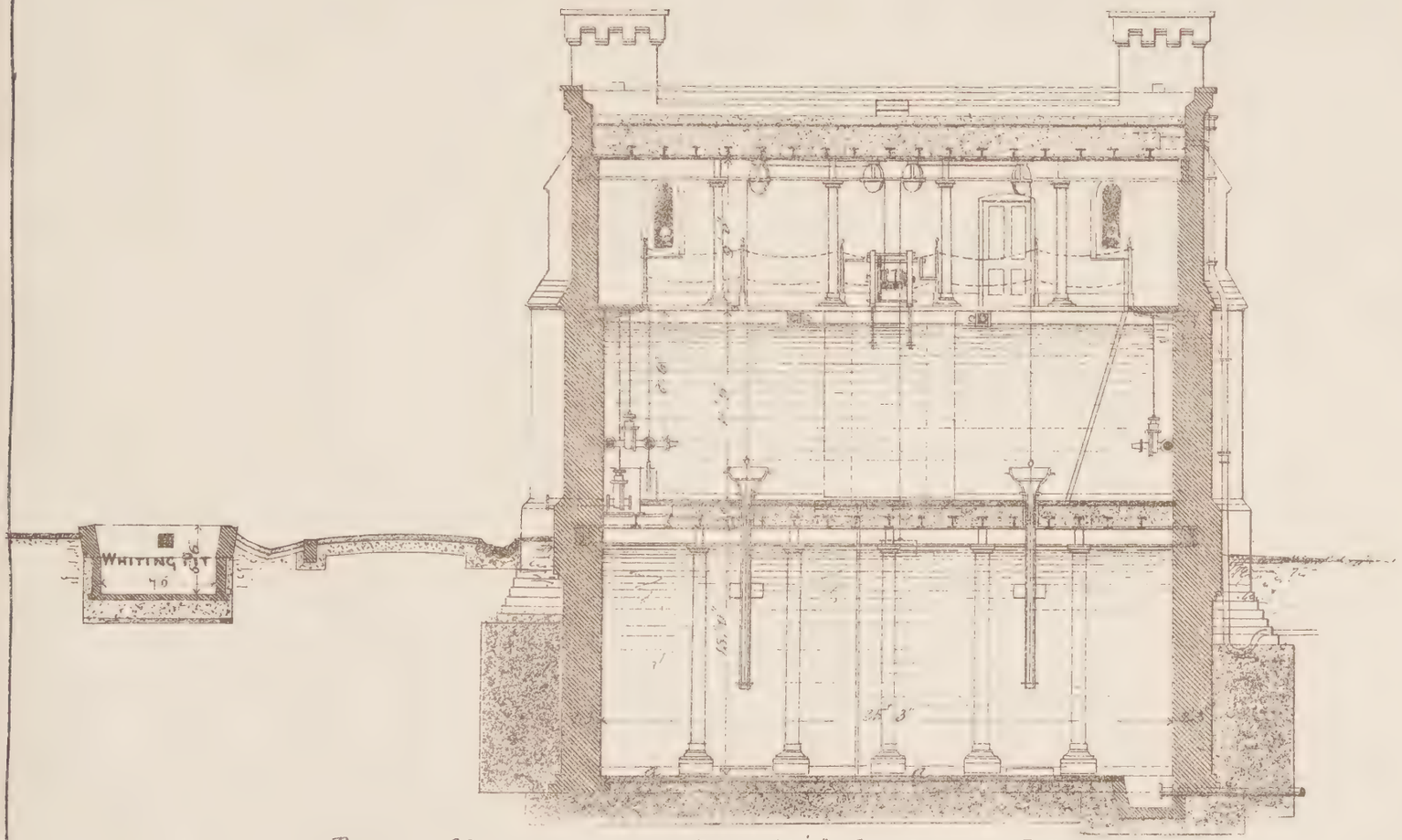
SCALE OF FEET

10 0 10 20 30 40 50

Day & Son Limited. Photo-Lith

HERBERT HOSPITAL, WATER SUPPLY.

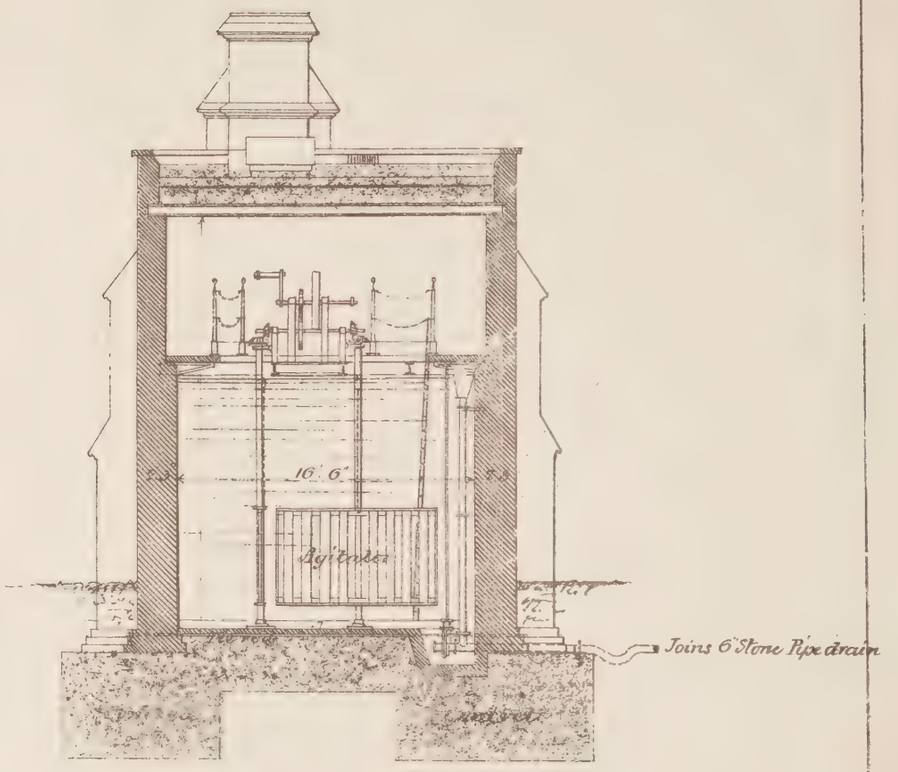
DRAWING Nº 28.



Bottoms of Service Reservoirs at about 347.2" above Ordnance datum.

SECTION ON LINE E.F.

Through Reservoirs.



SECTION ON LINE C.D.

Through Lime Tank.

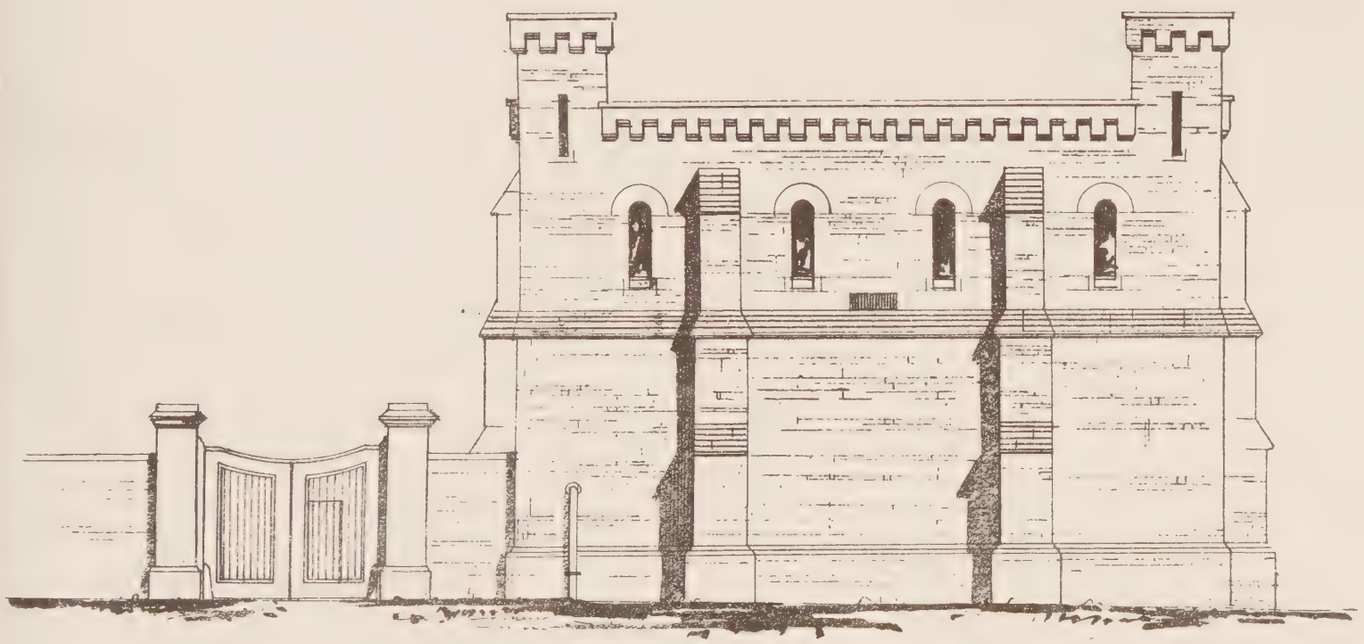
SCALE OF FEET.

0 20 30 40 50

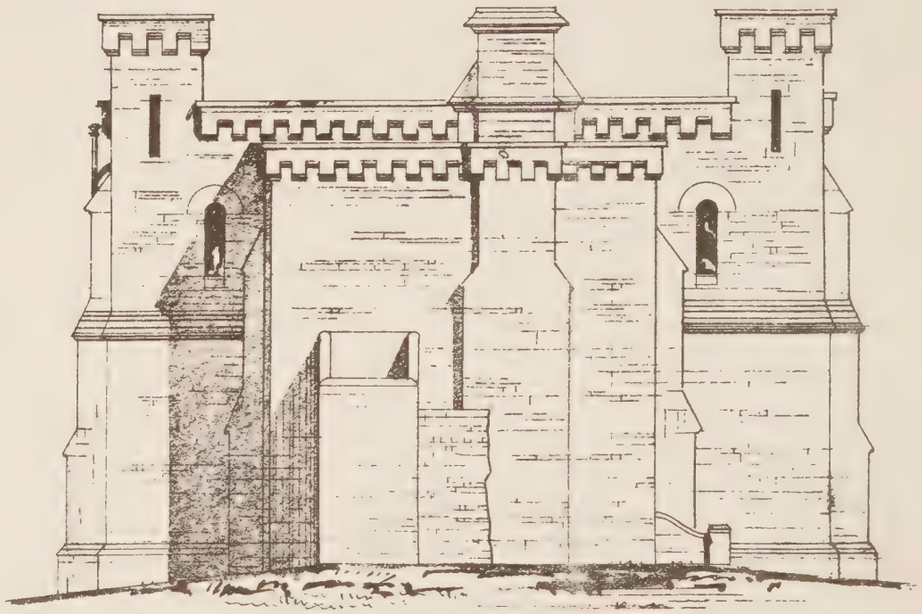
Day & Son Limited, Photo-Lith.

DRAWING Nº 29

HERBERT HOSPITAL, WATER SUPPLY.



NORTH-ELEVATION



SOUTH ELEVATION.

SCALE OF FEET.

10 0 10 20 30 40 50

Day & Son Limited, Photo-lith.

HERBERT HOSPITAL-WATER SUPPLY.

DRAWING Nº 30

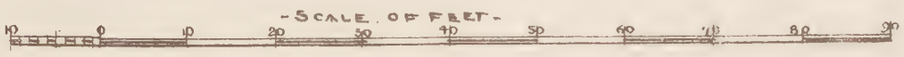
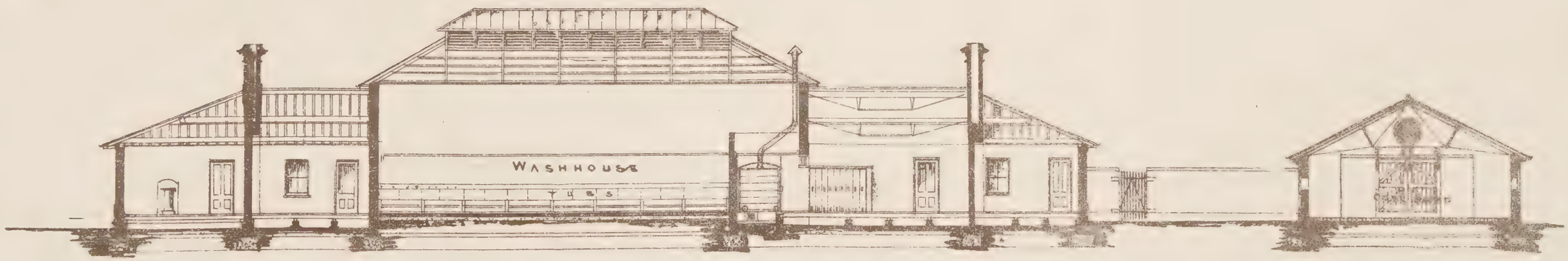
EAST-ELEVATION

SCALE OF FEET.

Jay & Son Lincoln. Photo-lith

DRAWING Nº 32

HERBERT HOSPITAL — WASHING ESTABLISHMENT

BACK ELEVATION



LONGITUDINAL SECTION A-B